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GLEANINGS A JOURNAL DEVOTED TO BEES AND HONEY AND HOME INTERESTS. **BEE CULTURE** ILLUSTRATED SEMI-MONTHLY Published by THE A. B. J. CO. \$1.00 PER YEAR MEDINA, OHIO.

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No. 12.

STRAY STRAWS FROM DR. C. C. MILLER.

YELLOW SWEET CLOVER blooms about two weeks before white sweet clover, according to J. L. Gandy, in *A. B. J.*

GARGLE for sore throat.—Salicylic acid and borax, one-half drachm each; honey, one ounce; water, eight ounces.

TO TAKE GREASE out of cloth.—Take 8 parts alcohol, 6 parts honey, 5 parts soap, 5 parts water. Wet the cloth with this solution and rub lively. Keep the mixture well corked.—*Mode Francaise*.

WHILE IT'S TRUE that stoves may have done more harm than good in bee-cellars, it needn't be so. You can do mischief with almost any good thing by using it wrongly. But an oil-stove isn't a good thing.

"INSIDE FURNITURE" is all right for what the hive contains before bees have ever occupied it, but I think what R. Wilkin wants is a term to include bees, comb, and brood. [What does R. Wilkin want another term for?—Ed.]

"WOULD YOU USE sections with foundation put in them two years ago?" is asked in *A. B. J.* Of the 23 repliers, only three say no. Several advise warming in sun before using. I wonder if they won't be warmed by the bees sufficiently.

IN THE STATEMENT, quoted p. 423, that "the nectar gathered by the bee is a secretion in which we may expect to find the essential virtues of the plant from which it is obtained," I wonder if imagination has not been allowed considerable play.

ANOTHER DRAWBACK to the plan of fastening queens in hives that A. Getaz might have added, p. 413, is that sometimes, after they have swarmed times enough, several swarms will settle on a tree together, and sulk all day. I think they'll do it without a queen.

AN EDITORIAL in *A. B. J.* shows a strong leaning on the part of the editor toward the view that every beginner in bee-keeping should have a text-book. If I couldn't have both a bee-book and a bee-journal I'd get the book first, and then pawn my watch for a journal.

"DON'T TRY to go too fast into bee-keeping. Better grow into it," says Editor York. Sound advice. [That is true; but many a man does not believe it in actual practice; or if he does, he shut his eyes and jumps—all the more reason why such folks should be made to open their eyes.—Ed.]

PROF. COOK thinks the old Union ought to make a big fight against adulteration in California. He says, in *A. B. J.*, "The Union has got to do this, or something akin to it, or else it will be dissolved and possibly merged into the other organization." [Prof. Cook is right.—Ed.]

FOR YEARS I've kept my bees in two cellars. I thought they had better air than in one. But it's less trouble to have all in one cellar, so last winter I put all together; wintered splendidly, and had fire only once, just for five days. I think G. C. Greiner is right in wanting a cool cellar filled up. [A good point. Those who cellar their bees next year would do well to bear it in mind.—Ed.]

DOOLITTLE, p. 414, has given an unusually full collection of plans for managing after-swarms, and he might have added two others. Except for the trouble, there's no better way than the old box-hive plan of returning the swarm as often as it issues. One of the best plans is to hive the swarm on the old stand; set the parent colony beside it, then set the parent on the new stand a week later.

A COMMON OPINION seems to be that, when you take away a queen, the bees in their eagerness to replace her make use of larvæ so old that a good queen can not result. I'm skeptical. In hundreds of cases that I have observed, the queen rarely emerges before the eleventh

day from removal of queen, making the larva only one or two days old at time of queen's removal. [You are right, doctor, according to my experience.—Ed.]

I HAVE ONE of the late smokers with grooved bellows-boards, and as yet see no objection to it. On the other hand it's refreshing to weary muscles to handle it, and the grooves will save the smoker many a fall. [The new grooves in the boards are a great comfort, and we shall adopt them in all our smokers as soon as possible. They cost but little and are a great convenience, especially where one's hands are sticky with honey.—Ed.]

TO THE QUESTION, whether it's best to use drawn foundation in sections, repliers in *A. B. J.* assume more or less of a "don't know" attitude, with a preponderance toward giving it a fair show. [Even those who answered unfavorably, in some instances at least, would have given a different answer had they seen the article itself. A case in point is that of Mr. McEvoy, mentioned on page 456.—Ed.]

THE *American Bee Journal* and *Canadian Bee Journal* agree that they are not called on to help every new enterprise in the way of a bee journal; but *Review* thinks it would be impolite to refuse a free ad. to an intending rival. [GLEANINGS takes middle ground. It believes in recognizing real merit, from whatever source it may come. At the same time, it also believes that possibly more harm than good is sometimes done by recognizing journals which are not yet out of their swaddling-clothes.—Ed.]

CURIOUS how persistently some passages of Scripture are incorrectly quoted. There's that one on p. 414, "A wayfaring man though a fool need not err therein." Just half of those ten words are like those in Isaiah, which reads, "The wayfaring men, though fools, shall not err therein." [What harm is done, providing we get the *idea*, the essence of the truth, and live up to it? I am one of those unfortunate persons who can not quote Scripture correctly to save my neck; but I can generally remember the idea, and that is worth tenfold more than the exact language without the thought. It is better, I grant, to remember both if one can.—Ed.]

I'M SORRY TO SAY that, although my horses eat a little sweet clover green, they don't like it as well as grass. It seems to go better dry than green. [For policy's sake, doctor, perhaps I ought not to publish the above; but I am going to give it a place all the same. Let us always have the truth, no matter which way it cuts. Did you ever taste the leaves of sweet clover then those of *other* clovers? You will find that those of sweet clover have a bitter taste, or at least a pungent weedy flavor that the others do not have. If the "likes" of horses is similar to mine I do not know that I blame the

horses for manifesting their preference. The flavor of the leaves is a little like the taste of sweet-clover honey. This, while it is nice white honey, and brings a good price, can not rank with the honey of other clovers. But all the same we should remember that sweet clover is the only fodder that will grow in some parts of the west, and as such is an invaluable crop.—Ed.]

A WRITER in *A. B. J.* condemns the bee-space in bee-hives as causing a loss of heat, and in a subsequent number W. Z. Hutchinson comes vigorously to its defense, thinking there can be no great loss of heat if it only escapes from one part of the hive to another. Not much danger the bee-space will be given up. [I should like to see the man who could be really good-natured all the time, and get along successfully without bee-spaces in hive-construction. There is hardly a single feature in modern apiculture, to my notion, that is more essential. We could almost as soon dispense with movable frames.—Ed.]

IF YOU HAVEN'T yet seen crimson clover, it would make you open your eyes to see the beauty of my patch now in bloom. It's well worth a place in the front yard. [A big field of it looks better, doctor. In fact, my eyes are now resting on one within a stone's throw. It's the town talk now, and, oh how the bees do hum on it! I verily believe a given acreage of crimson clover will furnish more nectar than any other plant. It is a more rapid grower than any other clover, yields honey before any other, has larger heads than the white, and short flowrets. Surely a great future is in prospect for crimson clover, both for the farmer and for the bee-keeper. Say a good word for it wherever you can, brethren—at conventions, anywhere; and if you do not succeed in growing it, learn how. We make it grow every year.—Ed.]

I FOLLOWED you with much interest, friend A. I., on page 427, as you watched all night for the frost, and felt quite relieved when you got through safely without the expense of moving those 150 sashes; but I couldn't help wondering if your wife didn't think your broken night's rest fooling around in the chill night air was paying just a little too much for all you saved. [Why, dear doctor, you seem to forget that I take a nap every forenoon and another nap every afternoon; so if my sleep is cut short a little I just make the afternoon or forenoon nap a little longer. See? Another thing, I am usually awake by daylight, or a little after, the year round. I do not always get up, of course, as soon as it is light, but it is not very much of a task for me to get up as soon as I can see, if any thing happens to require it; and I make it up somewhere about 10 or 11 o'clock, as I have mentioned.—A. I. R.]



By R. C. Atkin.

MARKETING HONEY.

In a preceding article, on page 407, I discussed this question, showing that there was no *regular package* or method of getting extracted honey on the market in shape to retail. We have the wholesale packages that are all right for the bakers' and manufacturers' trade; but what we want is a strictly retail package—one that can be both wholesaled and retailed. I suggested that the honey be canned as fruit and vegetables, crated as they are, then it can go through the regular trade channels. If we do this, there is the

CANDYING QUESTION.

I have been making it a practice to sell all my extracted honey liquid, both wholesale and retail, except to those who wanted it otherwise, or who were prepared to liquefy for themselves when they wished it so. I have had local customers who would take it as quickly candied as liquid, and some who preferred it candied. There are two main reasons for putting it out liquid; viz.: If in wholesale package, the purchaser will want it so he can draw it out for retail. Few who buy at wholesale are prepared to liquefy, and neither the dealer nor consumer, as a rule, knows how to *properly* liquefy. It would not be a hard matter to educate the dealers to do the liquefying; but suppose they do melt it, it will candy again if not soon used, so, after all, the consumer has to liquefy—rather *reliquefy*. If, then, the consumer must liquefy, why not do away with the whole matter, and, just as soon as the honey is extracted, put it in small cans of, say, 1, 3, or 5 pound sizes—or, possibly, better only two sizes, say 3 and 5 pound? Let it candy, and let the consumer follow printed instructions and liquefy for himself; or, if he prefers, use it in the candied state. This would save the darkening and flavor-killing process of so many meltings. Just give the people a chance to buy honey at or near the price of other sweets of similar grade, and they will soon learn to do the melting. If only she had or could get it, would not every housewife soon learn how to prepare honey? It is an insult to the intelligence of our women to say that they would not learn to liquefy honey when every can has plain instructions on it. They will learn it as they learn how to prepare the many kinds of food products. If anybody doubts this, just let

him establish a trade on honey in candied form; *always* have the article at regular trading-places, at prices that will compete with other sweets of same grade, and I am sure he will find customers; but rest assured that, if you are constantly changing size, style, and cost of package, and do not keep the goods always on hand to be had when called for, you will soon lose your trade.

Mr. J. L. Strong, of Clarinda, Ia., who has been for many years producing honey there, tells me that, by a little instruction now and then to his customers, they soon begin to call for the candied honey, many preferring to use it that way. No, no, friends; the people are not so slow to use our products as we are to put it in proper shape and get it to them. They want it so they can buy it at the stores with their other purchases of groceries, and we must put it there.

Last year a number of Colorado apiarists talked very seriously of organizing a company and buying honey-cans in car lots, putting up our own and neighbors' honey. In correspondence with one of the most extensive honey-dealers in Chicago they said they would not take the responsibility of selling such goods; but if I would make a start and put up my honey that way they would try to introduce it. The plan we had in mind was to organize and get a registered trade-mark, put the goods out under an association guarantee, and that all goods should be standard grade. On account of failure of crop, and the heavy loss of bees from some unknown cause, the matter was dropped. I am very much interested to know the outcome of the efforts of the California association. Very few men produce in quantity to undertake anything of the kind; but by organized effort there could be a great change wrought, and much good done. Let me here repeat what I said in the previous part of this discussion, that there is not honey enough on the market to make it an object for people to invest in honey-depots or packing-houses, or to get the product properly before the public.

HOME MARKETS.

Last year—1896—I had a very light crop, amounting to two tons or less. As I wanted to get off on our tour in the wagon, I wanted to dispose of the honey as quickly as possible. I found the quotations were from 5 to 7 cents, delivered, in the wholesale markets. Freight to Denver are about $\frac{1}{2}$ cent, and to Chicago about \$1.90 per 100 lbs. If I sent the honey to these markets, and took what was left after freights and commission were out, I should have only 4 or 5 cents, to say nothing of cost of cans, and the risk. If I left the honey for some one else to look after, the liquefying and bother would eat up a large per cent of it. I had sold much more honey the previous year than my present crop, right at the honey-house, at from

6 to 8 cents. So I said if I must sell to Denver or Chicago at 6 or 7 cents less freights and commissions, I would let the people at home have it just as cheaply as some commission man. I then advertised that I would sell from the honey-house in any amount at 6 cents if purchaser brought his vessel; but if I furnished the vessel I would charge its cost extra. You see, the poor family that could not buy 50 pounds could get 5 or 10 pounds at the same rate as the more wealthy. I sold the crop out in a very little while, it going about as fast as I could extract and get it ready.

I suppose many would tell me that I was ruining prices by putting the price so low. Let me explain that. If I had been staying there right along I could have sold the crop during the year at about 8 cents. The reason I say 8 cents is because sugar can be had at about 6 cents, and makes a very good syrup; and if I get too much above the price of sugar I should lose the trade of all but those who will pay more for the honey because they like honey better than sugar syrup; but to those who must economize, the cheaper sweet would take the preference. In order to get as much as possible into the poorer families, and to insure sale, I put the price at only 6 cents, which was better than 7 cents in the city markets, because it was net price. In fair to good seasons there is much more honey produced in my locality than the local trade will take. I have sold quite a little to peddlers who go to the mountains, and to localities where there is no irrigation. The question practically is, whether I shall sell in the home market as cheaply as in the cities. If I make the local price about a retailer's commission above what the honey would bring at wholesale I have not damaged myself, and have marketed more of the crop at home than I could have done at higher prices. If the local demand is greater than the production, and honey is shipped in to supply the deficit, then it is proper that our local product be sold at the price the foreign goods must bring to pay first cost, freights, and commissions. As my locality does not import any honey, but, on the other hand, I must export my surplus over local demand, it is but just and right that I put the price to the local trade just enough above wholesale to pay me for dealing it out. This will increase the local demand, and in so far relieve the pressure on city markets.

That our local markets are not properly worked, I am sure. We must "introduce" our goods; and, when once we have a trade, *keep it supplied*. Remember that the dealer who gets the business is the one who keeps the goods wanted, and at reasonable prices. Will not some of our men of means take up the matter of packing honey and establish houses in all producing districts to handle the surplus prod-

uct in those fields? We *must* have something of this kind, regular standard packages, and our goods put before the people in a systematic way, or we must be content to sell locally, and raise or lower the price as we may have a small or large crop. These are my conclusions after studying the problem for several years.

Loveland, Col.

[I question whether we could get the general public to look with very much favor on a package of extracted honey that is candied—one that must be brought to a liquid condition before it is consumed. However that may be, I think you are exactly right in urging the importance of a uniform package; and if some organization does take hold of it, the A. I. Root Co. will. If there is a demand for it, we will place on sale at our various branch offices and depots fruit-cans of a standard size, in car lots; but before we can go into any enterprise as gigantic as this, we must have the assurance that bee-keepers generally would accept the standard can used by all fruit-men. In the mean time we solicit the opinions of the brethren. The standard fruit-can package in question is the one described in our last issue, page 409. It has no patent fastening or screw-top, but is simply a common fruit-can that is sealed by soldering. For this reason it should be put on the market considerably below the cost of ordinary self-sealing packages of equal capacity. We are at present writing for prices.—Ed.]

HOME-MADE VS. FACTORY-MADE FOUNDATION.

SECTION-PRESSES, ETC.; THE EDITOR'S STATEMENTS CRITICISED.

By F. L. Thompson.

On page 318 a footnote says, speaking of the Rietsche press, "At present prices of foundation, no bee-keeper could afford to make his own, especially if he could turn out only 150 sheets an hour."

Beeswax in Cleveland and Cincinnati is quoted highest at 25 cents a pound in that issue of GLEANINGS. Suppose one makes his foundation as thin as 8 L. sheets to the pound. This grade, when bought, costs 42 cents a pound in quantity. By making one's own foundation, 17 cents a pound is saved, and 150 sheets of foundation an hour means $18\frac{1}{2}$ pounds per hour worked, or \$3.14½ per hour, or about \$25.00 per day saved—say \$20.00 net, so as to take account of the fuel, lubricant, interest on value of all articles used, etc. If I could do one quarter as well, and save \$5.00 a day, I should feel as if I were making money. And yet, "no bee-keeper could afford to make his own!" Mr. Editor, you could not have been thinking of the bee-keeper, but of the big supply-dealer, when you wrote those words. What is "altogether too slow" for the latter is extremely fast for the former. Consider, too, that the press (or, rather, mold) is very easily worked, does good work, and turns even small portions of wax to account. (It has been improved of late). It is

hard to understand why it would not be a most profitable investment for the *bee-keeper*—not the supply-dealer. It is true, its product soon becomes brittle if stored away; but its other advantages completely destroy this objection; for if the foundation made from it is used at once it is not brittle; and when the machine is right at hand, and works up even small quantities with ease, it pays to make foundation only as wanted.

I must also question the footnote on page 320, relating to the use of combined machines for folding sections and fastening foundation, saying, "We find the two are more rapid, simpler, and cheaper than any combined machine we have ever operated." If you find it so, that simply proves that your operatives are accustomed to separate machines. Let a man work long at one thing, by the piece, and he inevitably acquires great dexterity. Let him then try to accomplish the same thing by another method, even a superior one, and a few hours' or a day's practice is entirely inadequate to enable him to equal the speed of the method which has become automatic with him by long practice. But is that a fair test? Of course, not. Equal familiarity (so far as that has a bearing on speed) with both methods is absolutely necessary before pronouncing judgment. I have never used the Daisy foundation-fastener, but have one before me as I write, also specimens of its work. On comparing it with the foundation-fastening portion of the machine which I use, I find it impossible to believe that it can do quicker or better work, if as good. But with the machine I use, there is the distinct advantage that one does not have to handle the sections twice in their passage from the crate to the super. There is no getting around this; and when both portions of the machine do just as good and as fast work, separately, as the separate machines, it follows with mathematical certainty that, when one handling of the sections is saved, the combined machine must make better time when there is the *same degree* of familiarity with the combined and the separate machines. Of course, one of your crack workmen might beat me with the Daisy and the Hubbard, or, with a few hours' test of the combined machine, might not equal his record with the two former; but such comparisons would be obviously unfair. Little influences which are hard to describe hamper one's agility in changing from one machine to another. A good performer on the organ can not do as well on the piano unless he has practiced the piano also, and *vice versa*. I can do faster work with the combined machine (the Rauchfuss, which, by the way, you have never tried) than with the separate machines I have tried, and that settles it for me; and I feel sure the average bee-keeper, approaching the separate and combined machines with the same degree

of practice or non-practice, will have the same experience, and vote the latter ahead.

THE GRANULATION OF ALFALFA HONEY.

On page 321 it is claimed that alfalfa extracted honey does not granulate on account of locality, but on account of lack of "body." This seems a natural inference from the (somewhat meager) circumstances given; but I know the writer is mistaken. There are plenty of progressive bee-keepers in Colorado, though he seems to doubt it. That "body" depends on the handling is one of the A B C's here, and the handling is as well understood as in any State. I never extract before the cells are completely capped, if I can help it, and am in no particular hurry to extract then, if combs are numerous enough to tier up with. Moreover, I have frequently extracted from combs which have been two months or more over the bees since being capped. The "body" of such honey can hardly be surpassed. It is difficult to extract at all. But this very honey, kept separate in a reasonably warm and dry place, granulated just like the rest—generally sooner, if any thing, perhaps from some admixture of fall honey. Extracted fall honey here granulates much sooner than early honey of the same degree of ripeness (though the early honey is really inferior in body), showing conclusively that something else than handling influences granulation here; and if by "handling" is meant heating as soon as extracted, that also is known here, and practiced by some; but, with a few exceptions, it only delays granulation, and does not prevent it.

This leads me to say that I rather doubt whether Dr. Miller's scheme of draining off the liquid part would work with alfalfa honey, it candies so uniformly, reminding one of solid lard rather than any thing "granulated." I have frequently noticed, though, that some honey in the combs granulates coarsely, here in Montrose Co., as well as around Denver. But such honey is generally, perhaps always, of a golden yellow, and I think is always stored in the latter part of the season, containing a large per cent of something not alfalfa honey.

Montrose, Cal., May 28.

[Your implication, that my statement in reference to the cost of foundation was made on purpose to favor the supply-dealer and not the bee-keeper, is a sort of "left-handed compliment"—that is, if you mean I would be willing to twist the truth for the sake of booming our wax-working department. I shall assume, at all events, that you did not mean to hit as hard as this. I have endeavored, so far as possible, to have the truth come out, let it cut where it may; but when the truth favors *both* the bee-keeper and the supply-dealer, I can not see any harm in giving emphasis to it. I believe that nothing would kill a journal quicker than to have it give one-sided truth, and that favoring some manufacturer. Realizing this, it is our constant purpose to make GLEANINGS give impartially all sides of important questions.

In regard to the point at issue, I think I can show you that you are away off in your figures. You do not say anywhere that you have actually tried the Rietsche press yourself. If you have, it is likely you would have said so. But if you have not tried it, you are basing your argument, not on what you actually *know* from experience, but on what you have read, or what you think would be true concerning the press. You say, "Suppose one makes his foundation as thin as eight L. sheets to the pound." Right here I can not help feeling that you are assuming that that number of sheets can be made with the press in question, for you say, "Suppose," etc. I do not say that this number can not be made under very favorable circumstances, and with a special press; but I do not believe that the average bee-keeper can produce that number of sheets. We have one of the Rietsche presses; and the best we have been able to make so far has been three sheets to the pound, L. size. And *such* foundation!—clumsy, and with a great waste of wax in the bases. With the directions that came with the machine, the manufacturer states that a kilo of wax will make one square meter of foundation. If I figure correctly, this would be the equivalent of $5\frac{1}{2}$ L. sheets, nearly, to the pound. Is it not reasonable to assume that the manufacturer would place the number of square inches per pound at its highest limit? At any rate, it is altogether improbable that he would put the figure lower than could be secured by the average bee-keeper; yet you "assume" that *eight* L. sheets of foundation could be made per pound on the Rietsche press.

Now, I am going to "suppose," for the fun of it, that three sheets is all that you can make, for, in fact, that is all we have made with our machine. Allowing you a speed of 150 sheets per hour (which I think is altogether improbable), then you will have about 50 lbs. of wax worked up. This, at 25 cts. a pound, would be a total of \$12.50. Allowing you 25 cts. an hour for your time, this would make the 150 sheets of foundation cost \$12.75. That number of sheets of foundation made by a supply-dealer, just as good, and even better, without any unnecessary waste in the bases, and running *eight* sheets to the pound, would, at 42 cts., cost \$7.87; or, in other words, you would be "in the hole" \$4.88 per hour, or \$48.80 per day, to say nothing of the cost of the press itself, and the musing-up of things generally.

Perhaps you will say it is not fair to assume that only three sheets per hour can be made. Well, then, let us assume that five sheets can be made—nearly up to the limit allowed by the manufacturer; then you would make 17 cts. per hour *provided* you could turn out sheets at the rate of 150 per hour, which I very much doubt. But you say it is not fair to compare a less number of sheets per pound from the Rietsche press with the larger number of sheets per pound from the manufacturer. If the dealer's foundation is just exactly as good as and even better than the Rietsche, at the lesser weight, and costs less, I can not see that there is anything wrong in the comparison.

I did not dispute the figure that 150 sheets could be made per hour, on p. 318, that you refer to. It did not occur to me at that time how many it would make. While an expert might equal it under favorable circumstances, I doubt whether the average bee-keeper could make many more than a sheet every minute. With our press we can't begin to equal even that rate. We had trouble with the sheets sticking to the die-faces, notwithstanding we used several different kinds of lubricant.

The majority of bee-keepers who have used

the modern roller machines, of which we have sold so many, and who are able with them to beat the wax-press all to smithereens in speed, have long since come to the conclusion that it does not pay to make foundation for their own use. It is an art—a trade in itself. If a roller machine can't compete with the large factories, how can an inferior cheap machine? In Germany, bee-keepers can not always be sure of securing pure wax in the foundation procured from supply-dealers in that country, and hence has arisen this demand, I believe, for a cheap machine to make their own foundation of their own beeswax.

With regard to combined section-folders and starter-machines, perhaps you have not had the experience we have. We have carefully tested every machine that has been sent to us; and I have always told our workmen that we desired to have them test the machines carefully; and in every case we found we could operate not only much more rapidly, but do better work with our two machines. All the combined machines I have ever seen take too much physical power to fold the section, and even then they do not do a satisfactory job. The Hubbard machine makes use of a long toggle joint, by means of which great power is secured with a very small expenditure of effort on the part of the operator. Even if the combined machines would do the work more rapidly, we should still prefer the Hubbard on account of the superiority of the work. You admit yourself that you have not tested the Daisy machine, although you have one before you. Perhaps you have not tested the Hubbard. If not, then I can hardly see how you are any more unprejudiced in the matter than we are. Theoretically a combined machine ought to do the work more rapidly; but in actual practice it does not do so—in our hands at least. We have had parties write to us before now, praising the merits of their combined machines, for they could do a certain number per hour—that is, fold and starter the sections. It has been a little amusing when we have compared their figures with those from our two machines, with which we doubled and trebled their best speed. Assuming that the inventors of these different machines were reasonably expert in the use of them, they ought at least to be able to turn out within 75 per cent of the best output of their machine. By giving their machines credit for doing at least 25 per cent more, even then we have in every case been a long way ahead. I do not know whether I have tried the machine you refer to or not—I think not. If you can do better and faster work, I should be very glad to know it. We are constantly looking for the best in apiculture, and should be glad to know more about it.—ED.]

EXTRACTED HONEY.

HOW WE RUN OUR BEES TO PRODUCE IT.

By F. A. Snell.

Each bee-keeper has his own favorite way, and I will give ours. In the extracting-supers we use the same comb-frames, or those of the same size as used in the brood-chambers. We make it a point to remove from the brood-chambers all frames containing a large amount of drone comb, and put in their place good worker combs. By so doing we have but a small number of drones reared, or not more than desired. These drone combs are used in

the supers. Just before the surplus-honey season opens we look over all these supers and see that no spider-webs or any thing objectionable is present. The bits of comb, if any, are removed, frames are put back in place, and these are ready for the bees. Our queen-excluders are brought from the storeroom. The smoker is lighted; the bees are given a little smoke, the excluders placed over the brood-chambers, and one super or story is put on over an excluder on all colonies to be run for extracted honey that are strong enough to need extra room. Later, as other colonies become more numerous they are given a super each.

Many years ago we practiced equalizing brood to some extent in the spring, with a view to uniformity in strength, but have not done so for about twenty years. We do not believe in pulling down a good colony to help a weaker one, only to save a queen that we may prize. After the honey-flow fairly opens we make it a rule to see what is being done in the supers or colonies not yet having extra room, so that, if more room is needed, it may be given at once, never allowing a shortage of room for storing. In doing so, two objects are desired. One is to discourage swarming from overcrowding; the other, to secure the greatest amount of surplus honey. We run all colonies two and three stories high, or one or two supers on each hive of full-depth combs during good honey-flows. When the shaking-off plan is practiced we have two men in the bee-yard. Extra empty combs are at hand. Man No. 1 opens the top super, or the one with the well-ripened honey; removes the combs and hands them to No. 2, who shakes off the bees at the hive-entrance, brushing off the few remaining ones with a brush made of asparagus-tops; places the honey in an empty hive-body on the cart. The one who opens the hives removes the filled combs and places empty ones on the hives, and stands behind the hives, the other in front. As soon as the bees are shaken off at the hive-entrance he steps back a few feet and puts the combs in the empty story. When the honey from the first hive is on the cart it is run to the honey-room door, and the honey carried in. Man No. 1, after filling the first super with empty combs, shuts up the hive and opens the next hive. This man keeps the bees under control by using a little smoke as needed. The cart is run back to hive No. 2, with a set of empty combs, and so the work proceeds in the yard. The one in the honey-room removes the combs from the filled super, which was placed, when brought in, on a bench about 18 inches high, with two one-inch strips running lengthwise at each side on top, on which the supers are placed, giving room for the fingers in placing and removing under the sides of supers. Three supers single-tier, or six double-tier, can be so placed if it is desired.

The one in the honey-room does the uncapping, extracting, and pours the honey into the large cans or barrels, using a cloth strainer at all times, which excludes all except the honey. We use an uncapping-can in principle like the Dadant. When the apiary has been gone over, third stories are placed on all the stronger colonies. As stated in a former article, I now prefer to use the escapes as there mentioned to the shaking-off as herein described.

To those not experienced, and who have no escapes, the hints here given may be of some value. In a small apiary the bee-keeper can readily do all this work where his time is nearly all devoted to his bees.

The use of a great amount of smoke in handling bees should be avoided. A little at a time is usually sufficient. A great amount of smoke will injure the flavor of the honey. With escapes, very little if any need be blown on the combs when extracting, which is another point in favor of their use.

Milledgeville, Ill.

BEE-PARALYSIS.

ANOTHER CURE; A GLEAM OF HOPE.

By Joseph Monnier.

Last fall my prospects as a bee-keeper were very unsatisfactory by reason of "paralysis" among the bees, nearly my whole apiary being infected. The bees had a greasy appearance, and were dying in front of the hives by thousands, and I thought seriously of giving up the business. So, just before starting for Miami to pass the winter, I doubled up several of the very weakest and left them for all winter in discouragement.

About the first of last March I went to take a look at them, and found about half of the colonies entirely dead, and the others very weak; but I was surprised to see the hives I had doubled up. They were as strong as any I ever saw—had a bright healthy color, and not a sick bee. They were full of honey. This set me to thinking, and I formed this theory:

The bees were loath to kill off their own sick brethren, but killed the sick strangers without mercy, and thus threw off the disease; so I went to work and put two colonies together, where I thought they were too far gone; and where they still had enough bees I simply changed their places, putting No. 1 in the place of No. 2, and No. 2 on the old stand of No. 1. I did this in the middle of the day, when the bees were at work, also shaking some combs of bees before their entrances, so as to mix up thoroughly the bees in both hives. The results were astonishing. They went to work on the sick bees and in a few days I saw a marked improvement; and now my apiary is as healthy as any I ever saw. I have already extracted 550

gallons of honey, besides increasing my bees back to last fall's count. The bees are bright, full of life, and are as cross as any I ever saw. All a hive needs is bees from another colony, to cure themselves. So sure am I of this, that, if I were buying bees now, I would not discount them on account of paralysis. If, as you say, it may come again, let it come. It doesn't take long to apply the remedy; and if you could see my bees now it would be difficult for you to realize the condition they were in only three months ago.

Please let the brothers know of this remedy, and I shall feel myself amply repaid if those who are benefited by it will write me and acknowledge the fact.

Planter, Fla.

[Bee-paralysis has been one of those difficult diseases to cope with, first, because we hardly know what it is; and, second, hitherto no suggested remedy has worked invariably; and all of them, sooner or later, have resulted in failure with nearly every one. But your manner of treatment affords us a gleam of hope, both for what it has done in your case, and because, from a sanitary point of view, it looks reasonable. Good sanitation nowadays means separating the sick from the well—at least in cases of contagious diseases; and this is the whole secret of your method of cure, if I am correct. Under ordinary conditions a colony will not kill off its sick when it becomes weakened down; but by mixing the races, as it were, family ties have no particular influence, and then it is that the sick are separated from the well, and Nature does the rest. Although, as I said, friend M.'s treatment gives us a gleam of hope, yet not until I shall find that it works with equal success in the hands of others as well shall I begin to believe that we have a real cure for bee-paralysis.—Ed.]

BEEES AND GRAPES IN CALIFORNIA.

DAMAGE DONE BY BEES INFINITESIMAL.

By F. D. Lowe.

On page 223 I see an article from G. F. Merriam, relative to bees and grapes in California—their harmony with each other, etc.; and, further, that you solicit such valuable testimony from that source where it has been said that bees were a great detriment to the fruit industry.

I will just say that I happen to be in that particular locality. The principal fruit grown there is the muscat grape, which is made into raisins. Also large fields of alfalfa abound here, and, of course, the honey-bee has claimed a home. Apiaries of 150 colonies, more or less, are located from $\frac{1}{2}$ mile to $1\frac{1}{2}$ miles apart. On my ranch of 60 acres I have 25 acres of muscat grapes, which I convert into raisins. In the center of this vineyard I have an apiary of 115 colonies in Jumbo hives.

About the 10th of September the grapes are highly sugared, and are then picked and evenly laid on trays of 25 lbs. each. Immediately

after these trays are delivered over to the heat of the glorious sun they are all visited by a merry gang of bees; but, watch them closely for a few minutes. Here and there they dart with vivid rapidity, for they seem to scent something that is sweet. In the picking of the fruit there will always be a few grapes that have lost the minute stem that holds it, and the delicious nectar has begun to ooze, and the bee has claimed it for its own. There are also some grapes that are bird-picked, and the bees proceed to finish them, leaving nothing but the hull, which the grader always blows over.

So far bees have done no damage to my raisins; but I do know that some people here have been so zealous they actually gave testimony that the bees were boring right through the skins, when, in fact, the puncture was always made by something else.

Among other fruits I have apricots, and as yet the bees have the first time to molest them in drying time.

The damage done to raisins by bees is so insignificant that it is hardly worth mentioning.

On page 320 you have illustrated a huge machine in the shape of a section-press and foundation-fastener combined. It has always occurred to me that the essential thing in modern inventions that counts best is speed. There is no question in my mind but that the Daisy fastener caps the climax over all; and the strangest part of all is that more prominent bee-keepers do not use it. As for his section-former, there is unquestionably too much material in its construction. I have a press, the invention of which is original with me—is the simplest device that has come to my notice. Regardless of its merits and demerits I desire you to know that I have attained a speed on it of 1000 per hour. Its work is first-class, and, like Mr. Aikin's machine, there is only one made, and it is not for sale.

Rosedale, Cal., May 24.

[If you do not object we should be glad to receive a photo or drawing of your press, together with a short description. With no desire to throw your feat in the shade, I would simply state that one of our girls folds, with the Hubbard press, 1000 sections in 40 minutes, and this is her average right along. She has folded 500 in just 15 minutes.

Thanks for testimony regarding bees and raisins. It is another clincher among scores of others of similar character.—Ed.]

THE BEE-KEEPERS' UNIONS.

IS THERE NEED OF TWO SUCH ORGANIZATIONS?

By Prof. A. J. Cook.

Dear Editor Gleanings:—I like the thought and spirit of your editorial in which you urge that there ought and must be no feeling in the matter of the old and new Bee-keepers' Union.

I do not, however, agree with you that there is room for both organizations. We as bee-keepers are not numerous or rich enough to maintain the somewhat expensive machinery of the two organizations. One or the other, I believe, will soon cease to be. I think so, because I believe there is no excuse for both.

The first proposition, that there should be no ill will or bad blood, is too abounding in good sense to admit of argument. The day of animosities and invective among apiarists is long past. You remember, Mr. Senior Editor, when you and I first put hands to the apicultural plow, before the '70s, how much of rancor there was in our ranks. You remember the storms in the days of the Cleveland convention, when you and I first met. Happily that spirit and feeling are wholly gone. Surely happily for us, for I veritably believe that, if it had not gone, we would not have come. You, my friend, have done much to bring the better day; and God be praised for the success. No, we have no time or room or appetite for aspersions or ill will. A letter from Manager Newman, of the old Union, leads me to conclude that there is a serious misapprehension among the members of the old Union. I certainly did not understand the matter; and if not I, an officer, then probably not many of the others.

Mr. Newman says the old Union can not attack any evil but such as it has combatted in the past. Thus it can not fight adulteration. The last vote, he says, has settled that question. Now, I did not think our vote took any such effort from the hands of the Trustees or Executive Board. If so, I am not sure but, on the plea of "self-preservation," we should disregard such vote, for the old Union has *got* to fight living issues, or die. It can not live on its past record, excellent as that record is; nor can bee-keepers afford to support two unions. Such action is senseless, and bee-keepers have sense. ☐ I voted against amalgamation, not because I objected to it personally, but because I believed quite a number of the members did oppose it as unwise; and it seemed to me that, when men had joined an organization, and paid money into its treasury, we should not change that organization unless the vote was nearly or quite unanimous. I was assured that a goodly number did seriously question the wisdom of amalgamation. I did not suppose I was voting to tie the hands of the Union, or confine its labors to lines no longer important.

As suggested above, I fully believe that one or the other of the present organizations will die. The division is expensive, has no excuse, and the fruits of one strong vigorous organization will be abundantly greater than of two struggling feeble ones. It will be a case of "survival of the fittest." Emerson said of the individual, "Not to change is to die." I believe we can say the same as truly of the old Union.

Thus I wish to urge all the members of the old Union to write at once to Manager Newman, 2096 Market St., San Francisco, and urge that the Bee-keepers' Union at once grapple with the question of adulteration in California. If he replies that he can not do so, then ask that a vote be taken. We now have a splendid law in this State, and the people are alive to the iniquity of the business. A pure-food congress has just been held in San Francisco, and the people are fired with a sense of the enormity of the evil and the necessity of fighting it to the death. A vigorous blow struck now by the Union will do untold good, and will inspire people with the thought that it still has power, and is willing to show it by striking effective blows at any threatening evil.

Mr. Editor, I come to you, for I know you will heartily agree with this proposition. I hope you will urge its importance, and that action may be commenced at once that will incite the old Union to grapple with this monster evil. I have no feeling in this matter other than for the good of the cause. I take it no one has. I have already urged, in the strongest terms possible to me, in the *American Bee Journal*, that we take this matter in hand. May I not ask that you urge the Vice-presidents of the B. K. U. to write at once to Mr. Newman to commence action or else take a vote on the matter? We have a rare opportunity to achieve great good. We must not let it pass unimproved.

NOTES.

This bids fair to be an exceptionally good year, even for California. The large rainfall of last winter, and the genial warmth and sunshine, coupled with damp nights and absence of hot winds, almost insures a remarkable honey product in 1897. Already the crop has measured up well, and we are yet only at the dawn of the season. I never sampled finer honey than I have eaten this season—first from the orange bloom, and now from the sage.

The white sage is now in its prime, and the bees are jubilant as they fairly swarm upon the delicate flowers. The sage grows in long stems, and the bloom is in long racemes, which commence to blossom at the bottom, and open upward. Thus the plants are in bloom for long weeks. This is one reason why the amount of nectar produced is so great. I believe that this flower has few equals, and California climate is just the one to bring it to its perfection.

The above remark regarding the long-time bloom of the white sage is not alone peculiar to that plant, but is a characteristic of all of the California flora. Flowers that opened in February and March this year are still in bloom. Some of the most important honey-plants, like "California buckwheat," bloom for months. The blossoms are now out, and will be in December. I believe it is this duration of bloom

that will ever place California at the extreme front as a honey-producing State.

I have seen and tasted comb honey the past few weeks that certainly was the equal of any I ever saw anywhere. Yet comb honey will never be the chief California product. The distance to market, and liability to break down in transit, the danger from insects, and the greater labor of production, and less yield, all give preference to extracted. Extracted honey, then, will always take the lead here.

Last year I handled several tons of extracted honey. There were only two complaints made; one that some of the cans were old; the other, that the honey was often mixed. This is important. No man can afford to put honey in old gasoline-cans, no matter how well cleaned or how cheaply secured. Sage honey is water-white; buckwheat, beautiful amber. The latter will never sell for so much as the former; therefore it behooves every bee-keeper to keep a sharp watch and not mix the two kinds; for all that contains the amber honey, even though in small proportions, will be discounted in the market. Carelessness in this regard will be expensive. Clean new cans and thorough grading will pay a tremendous profit on the extra expense.

It is reported that San Diego County will ship fifty carloads of honey the present season. It is probable that the other counties of Southern California will do as well.

This is a good year for testing the value of the Bee-keepers' Exchange. It is certain that this is a move in the right direction. Before many years all our industrial pursuits will have exchanges. Why not all join now and speed the glad day? The gain in purchase of supplies and in sale of product must be considerable. It is hoped that nearly all in California will join the Exchange.

Claremont, Cal., May 31.

[You are not the only one, Prof. Cook, who did not understand how he was voting on the question of amalgamation that was submitted time ago. I had hoped that it would not be necessary for me to say anything by way of criticising the policy that Mr. Newman has all along pursued; but I can hardly avoid doing so if I explain *why* I can not fully fall in with the plan you have suggested.

A few years ago, you, with the rest of us, voted to have the constitution of the Union changed so that it could take up the question of adulteration, or, in fact, any question that might be decided upon by its officers. When it carried unanimously we thought something would be done. But Mr. Newman has persistently kept the old Union working practically along the old line of defense; and I see no reason for thinking he would not continue to do so as long as he is General Manager. For this reason we do not feel like using the influence of GLEANINGS in trying to force upon him the necessity of taking up adulteration in California, when he is so manifestly unwilling; for one can not carry out a plan that he is not heartily in sympathy with.

I feel that we must look to the United States Bee-keepers' Union or to the California Bee-keepers' Exchange for help in the manner you have indicated in your article. The same effort in those organizations, along the line of fighting adulteration at least, would be productive of much more good. Personally I should be glad if the old Union would help along the good work already instituted in California; and I am authorized to state that A. I. Root, one of the directors, would be in favor of having the old Bee-keepers' Union take up the line of work suggested.

There is just as much room now for the two organizations in the United States as formerly. If the old Union shall insist upon continuing in its old work, its field will be narrow. The new Union is practically the old North American, with added functions of usefulness. There has been room for the two organizations in the past, and I do not see why there should not be room for them now. I feel confident with you, however, that, if the old Union does not make a change, it will die a natural death, and a new one will take up the work along lines that are commensurate with the needs of the times.

I am glad to note that you, Prof. Cook, are heartily in favor of the object of the new Union as set forth in the constitution of the new one; and therefore it seems to me your efforts should be directed in the channels of that organization. While it will not be able to accomplish much the first year, it has a backing of men in it who will make it do something in the future if others will take hold and help with their dollars.—Ed.]



PREVENTION OF AFTER-SWARMING.

Question.—Would not a queen-cell just about to hatch, or a virgin queen, introduced into a hive immediately after its colony has cast a prime swarm, prevent after-swarming by the young queen tearing down the cells before they were ready to hatch? In this way would there not be a great advantage by furnishing the colony a laying queen a week sooner than they would otherwise have a laying queen, besides stopping after-swarming?

Answer.—The above seems very simple and easy to answer at first sight; but upon a closer look it will be found to embrace some of the most perplexing questions which ever come up to the thoughtful, practical apiarist. Let us look at the matter somewhat closely and see what we can find in the text given us. It is assumed that, if a queen-cell or virgin queen is given to a parent colony immediately after it has cast a swarm, said queen, from the cell or otherwise, will go to tearing down the queen-cells left in the hive when the swarm issued therefrom. This is not the first time I have heard this assumption; but it is rarely that a greater mistake is made; for in nineteen cases out of twenty, if the swarm is hived on a new stand the cells will not be torn down, and not

once in five times where the old colony is removed to a new stand, the swarm being hived where the old colony stood—at least, this has been my experience in a practice of nearly 30 years. The bees do not want those cells torn down, for in them is cradled the choicest thing they have—that which they valued more than they did their own dear mother, and that which sent her out from her own home to seek a new one in some strange land; and if they considered them better than their own mother, are they now going to sacrifice them for any stranger, one on which they had bestowed no care or wish? By no means, only as they are forced to do so by being thrown out of a normal condition by having all of the field-bees drawn off by a removal of the hive from its old stand, or by the apiarist cutting off all of these queen-cells. And even in this latter case they will often kill the virgin queen given, or destroy the cell, preferring to rear a queen from their own sisters in the egg or larval form, which still remain in the hive, rather than to accept a stranger.

But, in passing, let me notice that expression, "the young queen tearing down the cells." We read it in this way more often than any other; but an experience of over a score of years (watching) along this line proves to me that, only where the queen has access to queen-cells without other bees, or in very weak nuclei, does she do the work of tearing open the cells, but the workers do it themselves. All know that, when the bees wish to protect these queen-cells, they can do it against the wishes of the most enraged queen; and when they change their mind they are just as ready to secure the destruction of the inmates of the cells as is the enraged queen; so all hands turn to, and the inmates of the cells are dragged forth and cast out of the hive, without even a single mourner. Whenever an introduced young virgin queen is accepted by the bees, of course the cells are all torn down and all after-swarming given up; but the rule is that it does not work that way, but the cell or queen is destroyed; and unless they conclude not to swarm when the first of the queen-cells left when the swarm issued hatches, after-swarming is the result, just the same as it would have been had we not given the queen or cell, and we find we have had all our labor of raising and giving the queen or cell for naught.

But, suppose we did succeed in this matter; would there be any gain aside from stopping after-swarming? Well, that depends altogether upon the locality, and the result in the end. With a continuous honey-flow from the time of swarming to the end of the season there would be considerable gain, provided the advantage were not lost by swarming again. With such a continued honey-flow the colony having such queen given to it would be far more likely to

conclude to swarm again than would the one where the bees had their own way, and they did not get a laying queen till near the time the brood had all matured which was in the hive when the old queen left. The conditions bringing about prime swarming are, plenty of brood in all stages, *plenty of bees of all ages*, and honey coming in from the fields. With any of these lacking, prime swarms rarely issue.

Now, where the honey-flow keeps right up, and the bees take their own course, or all after-swarming is prevented by the apiarist cutting all cells after the first young queen has hatched, the colony is without a laying queen for from eighteen to twenty days, as a rule, which makes a break in the usual hatching of bees for that length of time, so that, when the bees from the young queen begin to emerge from the cells, the hive does *not* contain *bees of all ages*, hence such a colony rarely ever swarms again that season unless more prolonged than we generally have it in the most part of the United States and Canada. But where a virgin queen is given, this break in bees is not very pronounced; hence colonies having such queens given them are quite likely to swarm with a prolonged honey-flow. Where the honey-flow is mainly from one or two sources, as it is with us, I think such giving of a queen a positive disadvantage, for the larvæ from her eggs are fed on honey which the bees are gathering from the field, which otherwise would go into the sections, that these larvæ, when hatched into bees, may become useless consumers of the honey of the hive, they having come on the stage of action after the honey-harvest from basswood is past, and before fall flowers think of giving any honey.

Where the colony has its own way, no honey is consumed by larvæ for 20 days, hence that much more is saved, and the break in bees comes just at a time when they are not missed, no honey-harvest being on, with enough bees remaining to care for all the brood the young queen produces, and this brood matures into bees in just the right time to take advantage of the honey-flow from fall flowers. A "weather eye" sufficiently skilled to secure a maximum of bees just in time for the honey-harvest, and as few at all other times as is consistent with this object, is something worth coveting by every practical apiarist.

M. L. R., Pa.—Where a colony is very strong, having, as you say, half a bushel of bees, and the hive is of good size so as to give them plenty of room, they are not nearly so liable to swarm as where the colony is smaller and their quarters are cramped. The circumstance you relate of this half-bushel of bees not having swarmed for six years is perhaps a little out of the ordinary, but by no means rare.



APIS DORSATA; DR. MILLER'S POSITION EXPLAINED.

Mr. David N. Ritchie writes that he is not satisfactorily answered on p. 189; that I do not object to the importation of *Apis dorsata*, and that those who do object give no satisfactory reasons for their objections. He thinks it need not be an expensive job for the government, and especially condemns any objection that it would bring down the price of honey, for we should be glad to have the poor supplied, and hopes government will be urged to import the big bee.

J. S. Scott takes a different view, and says:

"If it is good policy to increase the production of honey solely for the good of the public by making it cheaper, why does our government place a duty on foreign honey?"

No doubt if all the bee-keepers would unite in asking to have the tariff taken off from honey the request would be granted. Mr. Scott says:

"Is it not likely that, if the giant bee should prove a good honey-gatherer, and, like the bumble-bee, be of no use to us as to the production of honey for use, *Apis dorsata* might also divide the honey secreted by other flowers frequented by our own bees?"

If nothing I have heretofore said gives friend Ritchie the impression that I object to the importation of *Apis dorsata*, I will here say that I do object in the most emphatic manner to their importation till it is first known that they can be domesticated—not on selfish grounds, for I don't believe *Apis dorsata* would live in Northern Illinois; and if they should hurt the honey crops of the South, that might benefit me. But if they can not be domesticated, I see no manner of use they can be; and I can see that, whatever honey an undomesticated bee should gather, would be just so much less to go into hives.

As I have already said, if the government is to do any thing about it, let the appropriation be doubled, if necessary, and let domestication of *Apis dorsata* be thoroughly tried in its own country; and when that is satisfactorily settled it will be time enough to bring it here.

But it isn't best to get into any heated controversy about it, for The A. I. Root Co. seem to have taken in hand to solve the problem as to domestication; and if the attempt to domesticate should prove successful, no doubt their enterprise will land the bees here before the government could decide what to do about it. Now, mind, I don't know whether *Apis dorsata* would be a benefit or a damage; but I do know that I don't want it here till we know we can control it if we get it.

C. C. MILLER.

Marengo, Ill.

THE KEEPING QUALITIES OF PURE HONEY; THE CALIFORNIA ANTI-HONEY-ADULTERATION LAW.

What have you to say as to the keeping qualities of pure extracted honey? A late issue of the California *Fruit Grower* has the following gem in the body of an article commenting on our new anti-adulteration law. Addressing the article to dealers, grocers, shippers, and handlers of honey, it says: "They can not put up an extracted honey which in any way is a compound, even though it be a fact that an absolutely pure honey is lacking in keeping qualities. They can not manufacture or sell a honey which is an admixture, no matter how innocent or desirable that admixture may be."

From all information obtainable I judge the alleged lack of "keeping qualities" is going to be the plea of justification for adulterating honey. I wish you would take the matter up and bring out all the real information, both scientific and general, within reach. Let us be forearmed.

C. H. CLAYTON.

Lang, Cal., May 1.

[That sort of argument in favor of adulteration, coming as it does from a representative of the middlemen, is mere bosh. It looks a little specious on the surface; but the fact of the matter is, there is nothing in the world, in the way of sweets, that will keep better than honey. A few years ago middlemen tried to tell us that it was necessary to put in a little glucose, at least, to prevent granulation; but after having carefully tested numerous samples with varying amounts of glucose, I know there is no truth in it. The stuff has got to be nearly all glucose before granulation is held in check. California has a good food law, and I hope it will stay on the statute-books in spite of the soft-soap nonsense of the glucose sympathizers.—Ed.]

THE PETTIT SYSTEM OF PRODUCING COMB HONEY; A CORRECTION; IMPORTANCE OF STRONG COLONIES.

Will you kindly allow me to trouble you and your readers with a few more words about my way of taking comb honey? I notice on p. 288, in Mr. Geo. G. Scott's very kind letter, a mistake that has crept in somehow. Mr. S. says, "The divider admits of two bee-spaces and the clustering of the bees therein, while the $\frac{3}{4}$ -inch holes allow of easy access to either side." That $\frac{3}{4}$ inch should be $\frac{1}{8}$ inch. I beg to say that the system, for best results, must be used as a whole. Both the wedges and the dividers are indispensable for best results.

Another point: The bees must be strong. There must be bees enough to take possession of the whole super, or nothing will be gained—may as well go on in the old way. Now, if this statement is against the system, then so much the worse for it. I want to tell all I know concerning it.

The perforated zinc, as suggested by Mr. Scott, works well; but it is pretty hard to keep it straight. Only for that difficulty, and the

fact that it is not quite as warm as basswood, I should have advised the use of it for dividers.

S. T. PETTIT.

Belmont, Ont., Can., May 18, 1897.

AN IMPROVEMENT ON DUNN'S WHEELBARROW.

Tell M. H. Dunn that I think he can materially improve his wheelbarrow, illustrated May 1st, by cutting his cover in two, not having it hinged to his box. Use wire hinges where he saws it in two, so the lids (two half-lids) will fold over on to each other, out of the road. I make mine with a very light frame covered with drill, letting the rim of the frame project down on the outside of the box all around to exclude bees more effectually. The frame is stiffened by fastening triangular pieces of tin on the corners. His suggestion, to place the combs lengthwise in the box, is an improvement.

R. W. WILKIN.

Newhall, Cal.

NO PAPER IN FOUNDATION PACKAGES.

In "Stray straws" of May 15, as to paper between foundation, Dr. Miller asks, "What's it papered for, any way?" Well, I say for no use, for I made up 100 sheets one year ago, and they lay in a pile until a few days ago, and they were just as I left them, and separated as easily as the day I made them: and, still more, I had about the same number of sheets dipped and trimmed ready to put through the mill. They were laid up then, and a few days ago I examined them and found them as I had left them nearly a year before. I put them through the foundation-mill, and they were easily parted, and made fine foundation. No use for paper here in this hot climate. If I were ordering foundation I certainly would have the paper left out.

In Straws for May 1st it was said that, if the frames in the supers were crosswise of the brood chamber, the queen would not go alone. I shall try that soon as my hives are all square and will sit either way.

Prospects for much honey very poor here.

JOHN CRAYCRAFT.

Astor Park, Fla., May 25.

IN FAVOR OF USING PAPER IN FOUNDATION.

In regard to paper between sheets of foundation, page 362, I would say that from my experience with foundation in this climate, owing to the heat, and long distance it has to be shipped, much of it would get matted together, and be unfit for use, and have to be rendered into wax again, and sold at a loss to bee-keepers.

J. B. GRIFFIN.

Cat Creek, Ga.

HOW TO GET STOCK TO EAT SWEET CLOVER; BY A 12-YEAR-OLD READER.

Our bees came through the winter and spring all right. First swarm, May 18. We have a

better prospect this spring for honey than we have had for many years. They are storing surplus from locust. We moved into this valley this spring, and found that there were but few bees here, and what few there are have very little attention. You can easily guess the result.

There is sweet clover along the road for four or five miles. No one seems to know how it got there, but I suppose some bee-keeper knows. Papa kept his stock on dry feed till they were nearly starved for something green. He thought they would eat any thing. When they were turned out on sweet clover they smelled of it and gave a snort and ran away for something else. So mamma cut some in a box and put some salt and bran over it, and they ate it all up, and have eaten it ever since.

Bernadotte, Ill.

NORA NEFF.

Big prospect for honey; it is coming in like an avalanche, working me a little above the upper notch.

M. L. WILLIAMS.

Maysville, Ky., June 8.

We are having a regular old-fashioned honey season. Bees are "just rolling in" the honey.

Morgan, Ky., June 8.

J. P. MOORE.

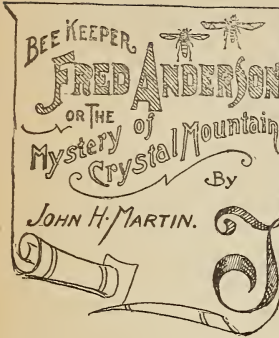


M. D., Tex.—We can give you no information in regard to producing honey wine, or, as some call it, honey mead. We have never given any thought to this use of honey, as we believe there are other and better uses for it, both from a moral and financial standpoint.

C. H. G., N. Y.—There is no method that we know of for bleaching comb honey after it has once been taken from the hive. Comb honey in the first place should not be left in the hive any longer than is necessary to have the capping completed. This will prevent travel-stains.

W. W. Y., Ky.—Sometimes swarms in the air are very cross, and no definite reason can be given why they are so, unless they are vicious hybrids in the first place. Pure blacks or pure Italians, when they swarm, are usually quiet unless they are molested or jarred unnecessarily in taking the cluster off the limb.

R. T., Ky.—Transferring should usually be done before the honey season. We recommend fruit-bloom; but shortly after will do nearly as well, providing you do not get the bees to robbing. For particulars on how to transfer, see page 32 of catalog, also "Transferring," in our A B C book.



HE passage through this portion of the mountains was merely an enlarged

cleft; and immense layers of obsidian, like great sheets of black glass, rested against and were part of the mountain above. The tremors of the earthquake had dislodged one of these layers, and, sliding down, it had completely covered the passage. The heaving mass of mud and lava was now rising slowly but surely. All semblance of the beautiful valley had disappeared, and again the place was returning to its primeval condition—a turbulent volcanic crater.

The squaws, in weird tones, repeated their death-chant, Alfaretta kneeling near them, her beautiful face turned upward in silent prayer.

The rest of the party for a few moments were mute with their various emotions. Fred seemed to forget self, and to divide his attention between Alfaretta and the rising tide of destruction. Walking quickly to the sheet of obsidian that had cut off their means of exit he found that it was only two inches in thickness; then hastening along the terrace he luckily found a heavy iron bar that had served as a part of the elevator. With this he approached the obstruction on the run, and under his rapid blows it soon gave way and finally came down with a crash. Sam and Gimp were on hand with a shout, to help clear away the debris. There was hope again lighting up every face, as the exit was cleared. The doctor bade Alamantapola take the lead into the passage. Alfaretta followed, and, forcing every one hurriedly along, he brought up the rear. For a moment he looked back over the strange scene of desolation, and seemed loath to stir until Fred, retracing the few steps he had taken, urged the doctor to hasten.

"I can not help looking back," said he, sadly; "and my memory always will look back longingly to what was once my beautiful valley. Our loved ones, our homes, our things of beauty, our attachments to earth, must all be taken from us."

"But, doctor," said Fred, "we can not think of these things now. We must hasten. See! the boiling mass is near our feet now, and there may be other obstructions in the passage."

"True, true," said the doctor, sadly, and hastened with Fred into the passage.

There was, fortunately, no further obstruction, and at the outer exit even the great rock door was toppled from its balance, never more to respond to the bidding of its master. The doctor again stopped and looked regretfully at the massive stone.

"The broken key, the ruined safe, robbed of quietness and pleasure, what is there now to live for?" said the doctor.

Another tremor of the mountain, and a hot puff of sulphur smoke came from the passage they had left, and they all made greater haste down the canyon; and while the doctor was brooding over the catastrophe to his valley Fred felt a new sense of freedom as he sped along, helping and half supporting Alfaretta in her flight. When fully two miles away they felt it safe to rest, and sat or reclined upon the brown earth as fancy or their condition of fatigue dictated.

Alfaretta here, after regaining her composure, said, with much feeling, "Fred Anderson, how grateful we should all feel toward you! But for your timely action I really believe every one of us would have been swallowed in that terrible pit."

"Let us say it was providential," modestly replied Fred. "As I think of my action it seems to me I was but an instrument to accomplish a desired end."

"Aye," said Dr. Hayden, "'Behind the dim unknown standeth God within the shadow, keeping watch above his own.'"

Again they were admonished to proceed, by other tremors of the mountain; and after a long and tiresome walk they arrived at the Indian rancheria. To the doctor's astonishment the Indians had been so exercised by the earthquake that they fled to the valleys further west, and near the coast.

It was near evening, and the party made themselves as comfortable as the circumstances would permit. Each person had brought a blanket, and, with a roaring fire in the large round house of the rancheria, each one felt safe for the night. Alamantapola and her companion found food enough cooked near the rancheria; and, though the food consisted of dried grasshoppers, these, when cooked properly with a little flour, made an appetizing meal.

During the night there were continued tremors of the earth, and sleep was not enjoyed in that camp that night, and all faces wore traces of anxiety.

Early the next morning preparations were made for a long weary walk to Covelo. The two Indian women would not leave their rancheria. When urged by Alfaretta to go with her, Alamantapola replied, "Um Indian return by'm-by. Me no 'fraid. White squaw go to her people. Me stay with my people, um good-by." Then the two women squatted stoically on the ground, as was their custom, and they crooned a song of farewell.

"It shall be," said the doctor; "and while we wait here, Fred may ride back to the rancheria, where perhaps he can find a saddle."

As Fred disappeared, Alfaretta, addressing the doctor, said, "But, doctor, do you own the pony?"

"No, my dear, I do not; but is it possible, Alfaretta, that you never remember riding that pony?"

"I certainly do not, doctor."

"That," said the doctor, "is your own pony, and the one Fred has told you about so many times."

"Oh dear, dear!" said Alfaretta, leaning her



"TAKE THAT, YOU LOW-LIVED MISCREANT!"

The little party, now reduced in numbers, had proceeded but a mile when they saw a couple of riderless ponies coming in the distance. When they approached, one of them proved to be Alfaretta's pony Jack.

"Up to his old tricks," said Fred; "has taken French leave of the Indians, and made for home, and how opportune!"

Fred and the doctor looked anxiously toward Alfaretta, and she, her face lighting up with a smile, said, "What a pretty pony! I do wish it were mine."

head upon her hands; "this is all so strange. I wonder if I shall know my own people."

For half an hour they conversed about her past insanity, and the great change that had been wrought for her in the beautiful valley; and while she was now sane, the valley itself had gone crazy.

Fred soon returned, having found the saddle; and with the two ponies Alfaretta and the doctor were provided with easier transportation.

When the little party entered Covelo, Alfaretta was recognized as the lost young lady.

The man Slim Jim would never forget the girl who gave him the lashing with her riding-whip. Dr. Hayden was also recognized as the mysterious man of the mountain. The people were not so terror-stricken by the earthquake but they could give attention and create quite a commotion around the doctor and his companions. Pete Armstrong, who had hunted the doctor with guns, and had once shot at him, was anxiously looked for by the crowd.

Slim Jim evidently had no good feeling toward the party, and, remembering the episode in which Alfaretta had struck him over the head with her whip, his questions and his conduct toward her were so covertly insulting that Fred, though indignant, kept his temper, and in a gentle tone of voice reminded Jim that it was the part of a gentleman to treat a lady with respect.

This excellent advice increased his ire, and he now turned a good share of his abuse upon Fred. The latter was pleased that he had drawn at least a portion of the abuse from Alfaretta. The continued abuse, however, so wrought upon Fred's sensitive nature that at length, forgetting to curb his spirit as he should, and forgetting that he endangered the welfare of the rest of the party, like a knight defending a fair maiden he slapped Slim Jim on the mouth.

"Take that, you low-lived miscreant, and that," as he followed it with another.

The crowd fell back, shouting, "A fight! a fight!" "Make a ring!" "Come, Jim, will you take that?"

"No, I won't take it," said Jim, livid with rage. "But I'm no fist fighter. I want deadly weapons. I say I want deadly weapons. Now, young man, if you have any sand in yer dandy body, jest walk right out with yer deadly weapons; and the quicker ye decide, the better."

At this juncture Pete Armstrong rode up, and, dismounting, made his way into the crowd. It was not necessary for him to ask about the excitement, for several voices shouted, "The mystery man of the mountains."

Pete Armstrong was a noble type of the young American, and Fred and the doctor felt instinctively that they would have fair treatment at his hands, while the crowd was so vicious and unreasonable as to refuse to listen

to the explanations the various members of the party had essayed to present.

Young Armstrong gathered the party under the saloon-awning, and said:

"Gentlemen, I believe in the great American idea of fair play; and while I would have shot this mystery man had I met him in the mountains, it is no more than fair that, as he is in town, and has in his party the young lady and boy alive and well, whom we thought dead, I propose to listen to each person's story; and if their explanations are founded on reason, I am willing to let those who are innocent go their way, and the guilty receive the punishment due them."

"But, Pete," said Slim Jim, "this young dandy slapped me in the face, and I have challenged him to meet me with deadly weapons, and I don't want to be interrupted in this thing by your personal matters."

"Ha, ha! personal matters!" said Pete. "Well, then, young man, what do you say? Are you willing to meet this aggrieved man with deadly weapons?"

"I certainly am," said Fred. "And as I am the challenged party I have the right to choose the weapons. We can settle this matter in a few minutes."

"All right, boys," said Pete. "We'll let the fun go on, and attend to serious matters afterward."

Seconds were duly chosen, and, though the doctor mildly persuaded, and Alfaretta urged, even with tears, to prevent the disgraceful scene, Fred was determined; and, though a very conscientious and moral young man, he seemed just happy at the prospective danger before him. Pete Armstrong, seeing that both were determined, told Fred to choose his deadly weapon, time, and place.

"Well, then," said Fred, "I propose that a circle eight feet in diameter be marked off upon the ground. Each party to the duel shall take his stand inside said circle, bareheaded, and his body stripped to the waist. Each party shall be provided with a peck basket, with a cloth cover. Inside said basket must be at least two quarts of live honey-bees. Each party, while keeping within the eight-foot circle, shall throw honey-bees into the hair and upon the naked body of his opponent, until one or both are stung to death, or until one cries 'Hold, enough!'"

A SHORT time ago a question was asked in the Question-box department of the *American Bee Journal*, whether it was advisable to use deep-cell-wall foundation in sections. A few answered no. It is very evident that some had never seen it, or at least had the impression that the new foundation was clumsy, and not the beautiful delicate article it is. Mr. Mc-

Evoy, one of the respondents, not having seen the new foundation, answered in the negative; but later on he saw a sample, and frankly acknowledged to Mr. Holtermann that, if he had seen it at the time he made the answer, he would have replied in the affirmative. This, I judge, would have been the case with the others who answered no.



THE next convention of the United States Bee-keepers' Union will be held on Tuesday, Wednesday, and Thursday, Aug. 24, 25, 26, 1897, in Buffalo. These dates occur during the regular meeting of the G. A. R., and of course railroad rates will be low.

After the foregoing was in type the following from Dr. Mason came to hand:

Railroad rates have been secured by the G. A. R., of two cents a mile for the round trip, that is, one cent a mile each way, in all territory east of the Mississippi river, including Canada; and in all territory west of the Mississippi the rate will be one fare for the round trip, tickets to be good going on the 21st to 24th inclusive, in all territory. Tickets must be bought for the G. A. R. encampment, and not for the U. S. B. K. U., and will be good for thirty days if vised at Buffalo, information in regard to which will be given to those attending the convention. Information in regard to hall and hotel rates will be given as soon as obtained.

To those living west of the Mississippi, I would suggest, although it may not be necessary, that it may be cheaper to buy tickets to the east side of the river at the regular rate. A. B. MASON, Sec.

PROSPECTS FOR HONEY-FLOW.

IN our locality at least, basswoods will yield no honey, for the reason that not a single blossom can be found upon any of the trees in the streets of Medina, nor on those in the forest. Examination of the buds at our basswood orchard shows a like condition. I do not know how far this condition may prevail throughout the country.

The heavy rains in the early part of the season have given clover a great stimulus, and reports everywhere show that it is growing profusely. If these cool nights will only give way to warm ones, we shall expect at least a good flow of honey from clover. Taking it all in all, the late spring and early summer have been decidedly cooler than for several years. It is generally supposed that warm nights and hot days are favorable to a honey-flow; but judging by the way the orders are pouring in from every quarter of the country, making it necessary for us to run day and night, it would look as if honey were coming in, even if the conditions were not exactly favorable so far as temperature is concerned.

A MILLION-DOLLAR COMMISSION FIRM.

IT is not often that I mention editorially the name of a new commission house; but lately we have received application for space in our Honey Column, from Francis H. Leggett & Co., Franklin and Varick Sts., New York. Referring to the commercial agencies, Dun and Bradstreet, we find that their rating is of the very highest that either could give. We are very careful whom we admit into this column, and accordingly wrote to the firm in question, saying that it was our custom to allow space

in our Honey Column to reputable and responsible commission firms, free of charge, on condition that they neither handle adulterated goods in the way of honey, nor encourage the sale of it if they know it. In reply I received the following letter, which I take pleasure in submitting to our readers:

Editor Gleanings:—In reply to yours of the 1st inst. we would say that, in regard to handling adulterated honey, that is not our intention, and we certainly will work with you on this line. Any information in regard to producers, etc., will be cheerfully received.

Trusting that our relations will be of a pleasant nature, and hoping to see our ad. in your next issue, we remain

Very respectfully,

FRANCIS H. LEGGETT & Co.

New York, N. Y., June 3, 1897.

This firm, with its capital of a million and over, we feel sure, will be a great acquisition to our Honey Column; and although we have received numerous applications for space in this department, many of which have been rejected on various grounds, we take pleasure in giving these people space, even though they are strangers; and if they do not give their customers satisfaction we shall drop them out.

HONEY ADULTERATION; CANE SYRUP AND GLUCOSE.

WHEN an analysis of honey shows only 10 per cent of cane sugar as an adulterant, and no glucose, it does not necessarily signify adulteration. I believe the United States chemist stated, some time ago, that very small percentages of cane sugar found in honey could not be taken as positive evidence of fraud. If I am correct, nectar, just as it comes from the flowers, is chemically, to a great extent, a cane sugar; but after it has passed through the ripening process it is converted into what we call honey. Sometimes, when the honey is gathered and stored rapidly, it is not as thoroughly ripened at some times as at others. The consequence is, analysis shows a trace of cane sugar.

Perhaps our readers may think that, even if this is true, it would not be wise to give publicity to it, for the reason that dishonest persons would think they could add at least 10 per cent of cane sugar to their honey, and not be detected. No fear need be apprehended along this line, for the reason that good qualities of honey are sold so near the price of cane syrup it would not pay to put in so small an amount. But then it may be argued that it might pay to put at least 10 per cent in *dark* honey; but here, again, the price is as low as or lower than the syrup. If adulteration were practiced at all it would be syrup adulterated with honey, rather than honey adulterated with syrup.

But you may ask what specially called forth this editorial. A short time ago an innocent party was accused of adulterating, because the chemist found 10 per cent of cane sugar in his honey. I wrote to the party in question, giving the position of the United States chemist, and added that it was my opinion his honey wasn't

adulterated; that, if he were bad enough to go into any such fraud, he would not stop at 10 per cent, but would put in enough to pay him for doing it, and that would be 50 or at least 33 per cent.

On the other hand, when analysis shows a very small percentage of glucose, it is pretty certain that some one put it there. Glucose is very easily detected by the chemist, and it is no difficult matter to determine even the very exact per cent of it. The adulterant (glucose) by reason of its very low price, and the fact that it is almost devoid of any color, is what we have to fear. It pays, from a financial standpoint, to mix honey and glucose, provided the mixture can be palmed off as pure honey. But our food commissioners in our various States are becoming more and more alert; and with good laws back of them in every State in the Union, the chemists would enable them to hunt down the guilty parties and make them pay the penalty of the law. The United States Bee-keepers' Union will undoubtedly work to secure the enactment of pure-food laws in States where they have none. There is no question but this is the proper way to handle the glucose problem.

HIVING SWARMS AT THE HOME OF THE HONEY-BEES.

SWARMS are beginning to come forth, and it sometimes happens that several of us have to take a hand in hiving them. The bees seem to take special delight in coming forth exactly at the noon hour, when we would like to have a little quiet, for we are, and have been for some time, running night and day.

On Friday, June 4, as I was standing in front of the basswoods near my house, talking with A. I. R., some one called out, "Swarm of bees!" They were just emerging from between the tall evergreens surrounding the apiary; and the way they were piling through led me to believe they meant to "light out" for parts unknown. I grabbed up a pail of water and a spray-pump, and started after them. As I sprayed, the little fugitives did not drive back like a flock of sheep, as they ought to, or as I have made other swarms do on many former occasions. They seemed to be driving right through my artificial storm. I followed them, nevertheless, slopping the water on myself, but keeping up a continual spray among the thickest* part of the swarm. Mr. Weed, the foundation man, seeing my predicament, rushed to my assistance; and A. I. R. called on two of the gardeners to bring me buckets of water as fast as I used them up. Still the bees kept moving northward over the berry-patches, and over the raspberry-bushes, seeming to take special delight in gliding over objects that were serious obstructions to us poor mortals

who had to climb through the bushes. Pailful after pailful of water was used up, and the bees were nearing the railroad track, and immediately over a pile of tile. I then got clear around on the outskirts of the bees, and wet down thoroughly the outposts, as it were, and finally succeeded in holding them at bay. As I was getting tired with the continual squirting, Mr. Weed took up the pump and went at it like a regular steam-engine. He set such a hot pace for himself that he was soon "outwinded," to use a little bicycle parlance. But he managed to hold them where I stopped them.

The bees hitherto seemed fairly wild to get away, and it looked at one time as if they would accomplish their object. Spectators here and there were eagerly watching to see which side would come out ahead, while the spray-pump was forcing water out among the bees. After getting them pretty well wet down they alighted on the tile, in the grass, in the road, all over every thing, and finally, to our delight, they began to form a cluster on one of the raspberry-bushes. Mr. Weed and I, in our eager haste, had sprayed almost as much water on each other as on the bees; for as soon as we drove back one set of outposts, another set would start in another direction "to make a break," and immediately the spray was turned in that direction, and it did not make any difference whether any one was in the way or not—he had to take his dousing with the bees.

To-day, June 10, another swarm came forth, and was starting off in a like manner; but this time I managed to get the spray on the very outskirts of the flying bees. I got them started back in the opposite direction, and with very little trouble forced them to cluster on the evergreens, and then of course we had things our own way.

I know of nothing that will ordinarily change the course of a flying swarm of bees so effectually as a spray-pump. As I have often described in these columns, I have generally been able to drive swarms like a flock of sheep in almost any direction I chose. I remember once a swarm was making off. I ran ahead of it, sprayed the leaders, changed the direction of their flight, and then chased them toward a certain tree; and, having arrived there, I held them until they chose to alight.

I never had a case before, I believe, where we came so near losing a swarm in spite of the spray-pump as the one I described at the outset, for it is very rare that we are not able to make them cluster very quickly.

We keep a pail of water, a spray-pump, a Manum swarmer, and a long pole, in the center of the apiary. As soon as a swarm comes out, we make for these implements of swarming; and if the bees act as if they were going to run away and leave us, then we douse them until they are glad to alight.

* Here I made the mistake. I should have sprayed the bees in the lead.

OUR HOMES.

Shall we receive good at the hand of God, and shall we not receive evil?—Job 2:10.

In my last I told you that I was greatly disappointed to find that the outcome, after all of our pains, and success after our mishaps, was that the well should give us only *hard* water. I went up at different times and tried it, but it was of no use. The water was not like that from our other two soft-water wells. Very reluctantly I was obliged to let the men take down their tools and pack them up. Mr. H. said he would gladly do the work for me, but he did not believe we should succeed by going any deeper, and so the matter was dropped.

For a good many days I felt sad and discouraged whenever I looked up to the top of the hill at the windmill and tank. Yes, whenever I took hold of a piece of soap to wash my hands, and commenced to make suds, before I realized what it was I would get to wondering what queer and unpleasant cloud had come over my spirits all at once, or had given me a twinge, as it were. Why, the sight of the soap and water suggested the expensive failure of my last operation of drilling for water. Something over a hundred dollars had been paid out, and we were no better off than when we started. I thought of what I had been saying about saving money for the sufferers in India; and then I thought of those several singular and apparently direct answers to prayer, and I could not understand why this should be the outcome of it all. In fact, I had been thinking of writing up this very thing as an illustration of how God directs and helps those who put their trust in him. But what point would there be in it if the final outcome were just nothing at all but a waste of money? I kept pondering the matter; in fact, I am afraid I sometimes let my thoughts get to planning in regard to that well when I ought to have been listening to a good sermon on God's holy day.

Finally some one said to me that the foundry near by secured soft water by going down *deeper* than we had drilled, and I had the well-drillers put their tools back in place again, and tried going deeper. We pulled out our tubing, drilled the hole larger, and tubed off again to a point low enough to cut off the heavy vein of bad water. We succeeded nicely in this, and soon had a well absolutely free from water, down over a hundred feet.

"Now," said I, "when we get water again it will be soft."

"But, Mr. Root, I am afraid we may not get a good vein of water again," said Mr. H.

But I was very sanguine, and kept watching hopefully. We got down 120, 125 feet, yet no water. At about 127 feet I noticed a queer smile on the driller's face as he remarked:

"Mr. Root, we have not got any water yet of any account, but we have some *gas*. How will that suit you?"

Let me explain right here, that, when the gas and oil excitement first broke out, nearly forty years ago, I became greatly taken up with the idea of these new wonderful gifts that God was giving as a reward for drilling away down deep into the earth, and I very soon had a well of my own where I was drilling for gas or oil. During all these years, as you may know, I have been watching with new interest all developments in this line; but never before had I discovered or been the fortunate possessor of natural gas on my own premises. All at once the truth seemed to break in upon me. The great Father, in his providence, had been plan-

ning to give me this new "happy surprise;" and then I thought what a grand thing it would be to write up the whole matter for Our Homes. Now, I meant to do this truthfully and honestly. I meant to write under God's all-seeing eye, and to please *him* and not to please mankind. Said I:

"Mr. H., how do you know it is gas? May be it is only a pocket of air, such as we found before we struck the rock."

"Oh! I know it is gas well enough this time," replied Mr. H.

With trembling hands I got some matches and prepared to throw a lighted one down into the iron tube.

"Look out there, my friend! You may get more than you bargain for," said Mr. H.

"Oh! I know how to manage these things. I won't get hurt."

But he cautioned me again. I then dropped the blazing match into the tube, and dodged back; and it was well I did. An explosion followed, and a sheet of flame shot up several feet high, and singed my whiskers just a little. We put in a plug, and the gas burned several inches high out of the top of the small iron pipe. But my friend said there was not enough gas to be of any practical use. He thought that, by going deeper, we might get more. Before we started drilling again, however, his quick ear detected a faint bubbling sound in the well.

"There," said he, "we have struck water along with the gas, and it will probably soon rise up high enough to stop the flow of gas."

It did so to a partial extent. We decided to keep on drilling, however, and went down to 155 feet. All this time I was, of course, building my hopes away up, and planning what I should do with the gas, both at home and in the factory. Finally we struck a considerable vein of water; but it was *salt* water, and not soft. Salt water would be of no use to anybody unless I wanted to start a saltworks, and that, of course, would be clear out of my line. This salt water was of no use—not even for irrigating. Once more, and with a still sadder heart, the tools were taken up and the derrick moved away. I felt I had no right to invest more money in such a scheme, when calls were coming on all sides for help—help not only for needy ones, but for those who were actually starving.

As we did not find the soft water, and as the gas did not amount to any thing, of course there was nothing to be gained by writing the matter up for the Home Papers—at least, so it seemed to me for a time. I studied over the matter, and prayed over it, and now I feel at least comparatively reconciled to my failure with the well; and I feel sure, also, that God was teaching me an important lesson by the failure, that he could not have taught me had he given me success.

And now you see the point of our text, dear friends. Job said to his wife, when she gave him evil counsel, "What! shall we receive good from the hand of God, and shall we not receive evil?" Perhaps our readers had better look up that second chapter of Job. When all his success in life was suddenly changed to disaster and trouble, his wife lost faith and advised him to "curse God, and die." He rebuked her, and called her a foolish woman, and then he gave us the words of our text.□

Let us stop a minute and consider what the result would be if God were to grant every request made to him in prayer. In my talk to you in our last issue I used the text, "Whatsoever ye shall ask in my name, that will I do." This very text has stumbled and puzzled a good many, but it need not do so.

We should have to be more than human if we could so banish self and selfishness from our hearts that all our petitions would be asked in his name—that is, if our requests were to be consistent as coming from one who loves righteousness more than self. When we can do this, then God can safely answer our prayers. I was working and praying over that well with the thought in mind that the soft water would be a benefit to our town and to humanity; but I think that really my own selfish plans were mostly at the bottom of it. When we struck that vein of gas, so far as I can remember, my plans for utilizing it were all selfish ones—that is, the very plans I was so busy going over, and perhaps to some extent on God's holy day, and in his place of worship. It does seem a little singular that things favored us in such unexpected ways in getting it started; but we can not expect to fathom God's plans and purposes; and perhaps this very Home Paper may do as much good as I have given it, honestly and truthfully, as any I have ever written. My experience, in fact, just now calls to mind that of a devoted Christian, an old friend of mine, several years ago. He was greatly given to new projects—to starting out in some new kind of business. Soon after the war, when rents were high, and people could buy lots and build houses on them, and sell out at a large profit, he got a scheme into his head of buying lots and making nice little homes for laboring people. He was sure he could plan something attractive and convenient, and something that would sell. In fact, he could think of nothing else, and prayed again and again that God in his providence would induce some good friend to place the means at his disposal. Just about this time a relative told him he had several thousand dollars lying idle, and that he could have it at a low rate of interest—perhaps at no interest at all—I can not quite remember now. This friend saw in it at once a wonderful answer to prayer. He took the money, thanked God for it again and again, and built his houses; but, unfortunately, there was a reverse, and a great decline in real estate and rents; and the outcome of it all was, that, in borrowing this money, he got himself into the worst trouble of his life. He came near losing his faith in God and in prayer. When he stated the case to me I told him at once where, as I thought, he had been making a mistake. Our prayers should all be prefaced and closed with the words of our dear Lord and Savior—"Nevertheless, not my will, but thine, be done."

I have sometimes thought that perhaps God answers our prayers in order that, by so doing, he may teach us wholesome lessons. Many of you have doubtless heard of the woman who prayed that her boy's life might be spared when he was very sick. She finally asked God to spare him under *any* condition—even to take her life if need be, but to spare the boy. He lived, and she lived to see him die on the gallows. This may be true or it may not be true; but I think it points a wholesome moral to us all. The human will should never be set up against God's; and if our faith is of a kind that causes us to doubt God because he does not give us just what we ask for, or because we can not exactly understand his reasons, then it is a very poor kind of faith indeed. Let us hold on as Job did; and let us also hold fast to our faith as did the patriarch of Uz when he said, as he rose sublimely above the narrow range of all things pertaining to this world, "Though he slay me, yet will I trust in him."

Still at thy mercy-seat, seat, Savior, I fall;

Trusting thy promise sweet, heard is my call;

Faith wins my prayer to thee; this all my song shall be,
Jesus has died for me, Jesus my all.



THE STRAWBERRY INDUSTRY AT BARNESVILLE, OHIO.

For several years I have been thinking I should like to visit Barnesville, and see how they manage where they grow strawberries by the carload and trainload, and also see what varieties, where they plant whole farms to strawberries. Well, last Saturday evening I received the card below:

Dear Friend Root:—The strawberries are ripening now, rather late. I think the first of next week would be a good time to visit the patches. I shall be pleased to show thee around. WM. L. ASHTON.

Barnesville, O., June 4.

With the rush of business now upon us, it was hard for me to be away for even one day, and I could not afford to waste any time by waiting for trains. So I looked up the state of things on the new wheel-book sent out by the L. A. W., and found that our Medina railway strikes a station in Belmont Co. called Bannock, where a limestone pike goes down to the old national pike; and by making a wheelride of toward 20 miles over these stone pikes I found I could reach Barnesville without any waiting. I will not stop to tell you about my wheelride, but only say that I met with about the usual number of adventures. In fact, I am bearing the scars of some of them while I write.

I was warmly welcomed by our Quaker friend and his boys, for he proved to be the superintendent of the Quaker school, a mile out from Barnesville. Near by was one of the strawberry-fields; and my first introduction to the strawberry-grower brought back a host of memories belonging to forty years ago or more. Shall I tell you why? Well, it was because the introduction was something like this:

"Brother Smith, this is Amos Root. Brother Root, I make thee acquainted with Solomon Smith."

"Amos Root!" Away back in my boyhood, when I was so bashful that I wanted to slip around out of sight rather than meet strangers, they used to call me "Amos Root;" and somehow or other it did my heart good to be called by that old familiar name. It seemed to say to me, "You are at home, and among friends—yes, *friends* indeed;" and it seemed to strip off business and business cares. Just the very words made me feel that I was a boy again—a quiet, backward, awkward boy; and it made me feel, for just a little time, loose from all business entanglements and complications. I do not know but I drew a long breath of relief. "A. I. Root" does not sound boyish; neither does "The A. I. Root Co." And, oh I do so *love* to be a boy once more when I get away off with my wheel!

My first glimpse was of a patch of berries on a southern slope; and, by the way, there *are* slopes and nothing but "slopes" around Barnesville—every thing slopes—garden-patches, whole farms; but, notwithstanding, I believe Belmont Co. is the most thrifty and the finest-looking agricultural county I ever saw anywhere in all my travels. Every bit of ground is covered with something green at this time of the year. No matter how steep the hillsides, nor how high their summits, something is growing. The forests have been mostly cleared away, and cultivated fields—that is, fields over the hilltops and down in the valleys—take their places.

The strawberries are grown in matted rows, just about according to Terry's directions. The ground was well mulched with straw in the fall, and there has been no cultivation since, except to pull the weeds; and just now they do not even do that very much, because the weed brings up a lot of dirt, and that is pretty sure to make the berries gritty.

The first row I struck was our old friend Warfield, that I have just been talking about; but the Warfield berries were larger than we have ever grown them here in Medina Co. This is owing to having the plants not too thick in the rows, to the rich gravelly loam on the hills, and to the great amount of stable manure or other fertilizer used. Almost every grower I visited, however, threatens to stop putting stable manure on strawberries, on account of the weed seeds. Some are using phosphates; but the greater number, I think, are using bone dust and ashes, or some other preparation of potash, in place of stable manure.

I felt anxious to know how many of the varieties we have been advising and recommending were flourishing there; and my good friend Ashton smiled when Bro. Smith told us that one of their best berries was the Warfield. Now, they have around Barnesville the very berries we have settled down on, and but only a few other kinds. The Jessie has been partially dropped, although a few growers still stick to it; and the same with the Parker Earle. Michel's Early they grow for extra early, but for no other reason. Bubach takes the lead for a large strawberry. Where Bubachs are grown with the plants far enough apart, so as to have plenty of room, they select choice specimens for fancy city trade. Such berries bring from 25 to 40 cts. a quart. Where you can get, say, ten berries that will fill a quart basket, it is not much trouble to find a purchaser for them, among traveling people on the railways, at from 30 to 40 cts.

□ Since my visit I think more of the Bubach than ever before. The Edgar Queen, I believe, is not grown around Barnesville, and it is the only one we catalog that has not found a place there. Brandywine is just beginning to attract considerable attention. It does not bear as many berries as the Bubach, perhaps, but they are so firm they can be handled and shipped almost like potatoes, even when they are well colored all over. This is certainly a wonderful thing in its favor. The Marshall has been grown to some extent, but I believe it does not produce berries enough for field culture, as a general thing.

One of the largest berry-farms in the neighborhood of Barnesville is managed by the Cowan brothers, one of them having over 100 acres devoted to small fruits, and, if I am correct, something like 40 acres entirely in strawberries. We were a little surprised to find the proprietor a colored man; and it was a surprise indeed to see how he was making berries grow on every foot of the land, hilltop and valley. Even in the ravine back of his house, where it was about as steep as the roof of a house, great rank luxuriant strawberries were growing and bearing there. Mr. Cowan says the *side* of the hill is much better for strawberries than the extreme *top*. He thinks this is much owing to the cold winds that strike the summit, while the berries part way down, especially where the hill slopes to the southeast, are protected from the cold northwest winds. It was indeed amusing to see the great clusters hanging over and spread out on the straw mulching on the down-hill side of each row. The Haverland, you know, is remarkable for its long stems, and these were literally piled up in heaps. The

day before our visit, they had picked and shipped 50 bushels.

Mr. Cowan objects, like the rest, to stable manure for a mulch, especially that which comes from the livery-stables in town. I do not know just why manure from livery-stables should contain so many weed seeds, but perhaps it is because they have to purchase large quantities of hay from all sorts of farmers. A man who has a horse and cow of his own, or who grows the feed for his stock, would not be so likely to risk taking weeds on to his premises. Several men told me they had got their ground filled with kinds of weeds they had never seen on their premises until they brought them in by purchasing stable manure for their berries. Now, this is indeed a serious matter. Another source of weed seeds is the straw mulching put under the berries to keep them clean. The small quantity of grain left in the straw makes trouble, but the trouble is not as bad as with pernicious weeds. The prickly lettuce is one of the worst, because it will mature seed, and send it flying about even while the berries are fruiting.

Permit me to mention here that Mr. Cowan was using very successfully over a part of one of his fields the refuse from a cane-mill near by. It answers the purpose perfectly, contains no weed seeds whatever, and he said the only objection in his case was the distance they were obliged to go for it. In their work they use two tons of straw per acre, or its equivalent in something else. This, of course, is for mulching, to protect the plants from heaving out in the winter, and to keep the berries out of the dirt in fruiting-time.

The berries grown on this piece of 40 acres are mostly those I have mentioned. Warfield, Haverland, and Bubach are sure to be found; then Parker Earle, Jessie, and Michel's Early are grown more or less.

I asked Mr. Cowan how often he shipped berries that sold so low as to pay for only the packages, express charges, and cost of picking. He said he had never come out quite as badly as that, even on a single bushel, although he had heard of others who had to advance money, besides the value of the berries, to pay the expense of shipping and marketing. I was somewhat surprised at this; but when I became better acquainted with the man I found that he was unusually bright and wideawake. He is a hard worker himself, and he keeps right along with his help, which, if am correct, is mostly colored people.

There is a factory at Barnesville for making crates and boxes for berry-growers; and they have certainly got the prices down very low. The cheap gift crates to hold one bushel, or 32 one-quart boxes, are furnished at Barnesville, nailed up, for only 12½ cts.; and as the nailed-up quart boxes are sold for \$3.50 per 1000, the whole expense of a package for a bushel of berries is only about 23 cts.

The raspberries and blackberries were wonderfully luxuriant over those gravelly hills. It reminded me of my visit to Prof. Grannis, a year or two ago. When I asked how they got along with this matter of wash and gullying on the hillsides when under cultivation, friend Cowan explained that they made their rows of berries around the hill, something on the plan described at the last end of our tomato-book; then when the water gets through, and commences to cut a gully, they stop it by tramping in the trimmings of the berry-bushes. These are tramped down in place, and then held there by refuse stones until the ground settles around them so that vegetation gets sufficient hold.

Our colored friend keeps up with the times,

subscribes to the periodicals devoted to growing small fruits, and is a live man in every sense of the word. As we prepared to take our leave he informed me that, when he started in the berry business some years ago, he had only about \$200 or \$300 to make a payment on the farm. The place was already pretty heavily mortgaged. It was only a short time ago that the last dollar of the mortgage was paid; and now he can breathe a little easier while he plans to make every yard of ground produce fruit of some kind. Besides the strawberries he has considerable ground devoted to currants and gooseberries, and these have always paid him well. Instead of paying large sums of money to nurserymen for plants, he grows his own, makes cuttings from the currants and gooseberries, and has a very pretty little nursery where they are cultivated and cared for until they are ready to go out into the field. As we prepared to go, I said:

"Mr. Cowan, this visit has been specially interesting to me because it is so unusual to see one of your race doing business and owning property as you are. I am sure the example you set before your people must be worth a good deal. You are not only succeeding in business, but you are doing missionary work among your people."

"Mr. Root, I know what my people are, the greater part of them. There are men who come here and pick berries, and I have seen them work until they had earned perhaps twelve or fifteen dollars, and then I have seen these same men go and waste this money, or worse than waste it, in two or three hours' time. The saddest part of it is, they seem to feel no compunctions of conscience or regret, but start in to work, and do the same thing over again."

While my friend was talking I could not help feeling sad to reflect that it was not only the colored people who "spend money for that which is not bread, and labor for that which satisfieth not."

When I got out on the national pike I called on two more strawberry-growers. One of them told me how he had been growing berries a great many years, but had just made a discovery—in fact, had just got his eyes open so as to know how to grow berries profitably. He took me down a side hill to show me his new invention—another patch of Bubachs fertilized with our old friend Sharpless; and, oh such berries! not only in size, but in luscious sweetness; and I actually believe I would rather have the Sharpless berry for my own eating than any other berry grown. But, let us get to the new invention.

The plants were all put out last fall; and neither the Sharpless nor the Bubach had produced a very thick matted row. In fact, in some places there were not enough plants; but they had had good care, and each plant had an abundance of room so that it was growing great whoppers, even if there were not so many of them. This man sells the greater part of his crop by sorting out the largest ones and selling them at fancy prices. It is almost like growing berries in hills. The runners are kept off, or mostly off, as soon as a sufficient stand is secured for large berries. He does not get as many bushels per acre, but he gets better prices for what he does grow. A neighbor near him was managing a plantation a good deal the same way, but he was using the Brandywine. Here again we had great berries that could be tumbled about like potatoes, while the Bubachs in the same patch would be, many of them, too soft to handle before they were fully ripe. But I am afraid the Brandywine is not going to give us as many berries as the Bubach. The latter

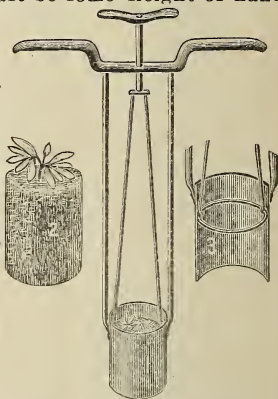
stands to-day, if I am correct, at the head of the list for large berries, and a lot of them. Some of the new varieties may get ahead of it; but introducers have been working hard for a good many years, and the Bubach seems to hold its own year after year.



A NEW TRANSPLANTING-MACHINE; ALSO SOMETHING ABOUT BASSWOOD-SEEDLINGS.

Something like two years ago a transplanting-machine was sent to Matthew Crawford, but for some reason or other he forwarded it on to me, asking me to test and report. On account of many cares, and other things to be looked after and tested, the little machine was laid under my desk until well along into the season before I took the trouble to take it out and try it. Another thing, I have tested so many machines that did not seem to be as convenient as some we already had in use, I was a little skeptical about it; but when I did get hold of it I was agreeably surprised to find that I could in a twinkling move any small plant to another location so quickly and so safely that it seemed almost as if it must be some sleight-of-hand performance.

The drawing will make the machine plain, almost without any particular explanation. You hold the machine in both hands, and with an auger-like motion back and forth you set the steel tube, No. 1, over the plant. It is pressed down till it will bring up the plant, roots and all, in a lump of dirt like No. 2. It is not advisable to push it any further down than is necessary to get all the roots. In fact, if the tap-root is broken off, with most plants they will do just as well.



A NEW MACHINE FOR TRANSPLANTING SMALL PLANTS.

After the plant is out of the ground in its ball of earth, you place your two thumbs on the lever at the top of the machine, and push down, releasing the ball of earth. With strawberries you can load these balls into a wheelbarrow, or with appropriate trays you can load them into a wagon. Fit your ground nicely, as described in our book on strawberry culture; mark it out according to your notion, then with the transplanting-machine make holes to drop your "potted plants" into, for they are potted plants, to all intents and purposes.

Some time in the fore part of April we put out with this machine several thousand strawberry-plants, including all the different varieties; and if there is one failure in the whole lot, I have not seen it. Almost any boy, with a little instruction, will operate it nicely; and with any soil that I have yet used it on, the dirt, if wet enough, will hold around the plant so it can be handled. The nicest way, in my opinion, is to grow your plants in a plant-bed made up of exceedingly rich compost; then you

carry enough of this compost out to the field to give your plants a big start, even if the ground is comparatively poor. We have not yet tried shipping plants by express, taken up in this way; but by breaking off a part of the ball of earth, so as to decrease the weight as much as possible, and yet have enough left to keep the roots perfectly, then packing these balls of earth with sphagnum moss, I think valuable plants could be sent this way with profit. The weight of the adhering soil would, of course, be a serious objection to sending any plants in this way unless it were a small number of something exceedingly valuable. Sometimes it seems desirable to swap places with certain valuable plants. With the above machine this can be done in a twinkling; and even the plants that have been transplanted do not seem to know they have been swapped. Although we have never used more than the one machine, I think it would be quite desirable to have another size a little larger; or two sizes might be found convenient. The one we use has a cylinder 3 inches in diameter and 5 inches in length. The whole thing amounts to the same thing as our transplanting-tubes; but you have no tin tubes at all to pick up and put away. The machine itself does the whole business.

Perhaps I should explain that cylinder No. 1 is made of the very best crucible steel; and while in use it is as bright as a dollar, and as smooth as a polished saw-blade.

And now we come to the unfortunate part of it. I have lost the letter from the man who sent the machine. I wrote him once, asking his permission to have an engraving made and have it published. He replied (I think it was about a year ago) that he was just about getting out an improved machine, and asked me to hold on a little. I have held on until I feel as if it would be wrong to keep people, who love gardening, any longer in ignorance in regard to this wonderful invention. It has now been tested by many competent men, and there is but one verdict in regard to it—it is way ahead of any other transplanting-arrangement of the kind that has ever been brought before the public. When our good friend gives me permission I want to make them and offer them at a reasonable price.

The little plant you see in the picture is a basswood-seedling. One day when one of our small boys was out of a job I told him to mark out one of our plant-beds with one of our markers (several times described), then pick up the basswood-seedlings all over the garden, wherever he could find them, and put them in the bed. No. 2 shows one of the basswood-seedlings just as we picked them up. In a little while he had a bed of 300 nice ones. And this reminds me that we have pretty much failed in getting basswoods to grow where we planted seeds; but wherever we are making up beds near the basswood-trees, these little seedlings come up plentifully. Under one small basswood-tree we picked out over forty plants. A friend suggests that perhaps the basswood-seeds should lie on the top of the ground, and endure the freezing and thawing through the winter; and he thinks that if, after this, we were to plant them in the spring, they would germinate successfully. Last fall, as you may remember, we planted something like a peck of seeds, but not more than a dozen plants came up out of all that quantity.

Will the friend who sent us the above machine, when this meets his eye, please let us know about it? I do not know whether it is patented or not; but the owner can, without question (in my opinion), procure a patent on it if he chooses.

FIRMING THE SOIL FOR STRAWBERRIES.

On page 691, Sept. 15, 1896, I spoke about the wonderful luxuriance of some strawberries at Matthew Crawford's. They were planted in a bed where the soil had been pounded down with a stamper, as you would pound the dirt around a post. Of course, the soil was first made fine and light, and plenty of manure was mixed with it. When I got home I had one of my plant-beds prepared in the same manner. It was spaded up very fine and soft, with plenty of manure mixed in. The ground was very rich, for plants had been grown on it for several years. After the fining-up it was pounded down as hard as the boys could stamp and pound it. It was so late in the fall that I did not see very much difference, and had rather forgotten about the matter. But it occurred to me a few days ago that each one of the four varieties on this bed was doing wonderfully. We have a new berry, the "Carrie;" another one called "Darling," and the "Earliest," the last of which I have been talking about. Each of the three is putting out runners that are just wonderful. A single strawberry-leaf will cover a teacup, and the stems stand up all of a foot high. The one called "Darling" has this morning, June 4th, the prettiest heap of fruit, ripe and partially ripe. I think I ever saw around a strawberry-plant.* I began to think all three varieties were something wonderful in the way of luxuriance; and then it occurred to me about stamping the ground. Friend Crawford's soil is somewhat sandy, and I was thinking that perhaps it would do better on such ground than on our own. Where our plant-beds have been manured heavily for several years the ground has a tendency to get light so it dries out easily. I believe this stamping will correct this trouble to a great extent. Remember, however, that all the stamping and pounding must be done when the ground is dry and fine. Mash all the lumps; have the soil soft and fine for a foot deep or more; then pound it down as hard as you choose. Of course, out in the field we would roll it with a heavy roller and some heavy horses to pull it, and also to stamp it with their big heavy feet. But you can test the matter on a small bed, to show what compacting will do.

Our bed of Nick Ohmers and Margaret's is just beginning to ripen, and they are little "peaches," without question. Mrs. Root was looking at them to-day, and she asked if almost any strawberry would not do wonders in a similar manner if I were to give it such rich soil and so much petting. Of course, we must allow for this. In the open field Michel's Early are just beginning to ripen. We shall probably make our first picking to-morrow morning, June 4. I do not think there is any other variety on our grounds that shows any ripe berries in the open field. In the plant-beds, where we kept off the frost by the use of glass, we are getting Marshalls, and have been getting them for two weeks past. The Jessies are also be-

* This new kind has another peculiarity that makes it wonderfully attractive. When it begins to color it is a light rose pink—almost exactly like the blush on a peach; and the strawberry, when ripe, is of a pinkish red instead of a brick red; the shape is also almost perfect, and, taking it all in all, I do not wonder that the originator named it "Darling." To be fair, however, I must tell you that, out of six plants we obtained last fall for trial, one of them has not borne a berry; four of them produced fruit fairly; and it was only the fifth that gave us these little beautiful handsome berries that made me feel like saying, "O you precious little darling of a strawberry-plant!" In point of earliness I think it will be fully as early as the Michel, and next to the one called the "Earliest."

ginning to ripen in the beds where they had a little protection. You can hurry strawberries along very much indeed by covering them during severe weather; and a covering of cloth, while it protects the blossoms from frost, will also do quite a little toward making the strawberries ripen earlier.

CRIMSON CLOVER AT THIS DATE, JUNE 5.

Just before decoration day, people were stopping their teams to inquire in regard to the beautiful new plant that decked the field by the roadside; and when it came time to prepare bouquets for our national day, great crowds were begging permission to gather some of the heads. In this way it was paraded and shown and admired all over our county, and people have been coming constantly to see it. It is now a miniature sea of crimson, and it is certainly as heavy as any clover of any sort ever grown on our premises. In one of the agricultural papers I saw a criticism to the effect that it did not produce any such stand as the common red clover. Now, I don't think I ever saw any more clover of any kind on a piece of ground, unless it was at T. B. Terry's; and if he were to grow the crimson I do not know but he would make it come fully up to his red clover. But, dear friends, suppose the crimson clover does not give as large a stand as red clover. Please consider it is a catch crop, or a stolen crop, if you choose. The seed was sown after taking off that heavy crop of potatoes. The ground was not plowed at all—simply harrowed over hurriedly. The cost of the seed and fitting the ground was not more than \$1.50 per acre (say 75 cents for seed); and nothing more has been done to it till the present time. We are letting it mature seed in order that we may have not only home-grown but northern-grown seed to offer for sale.

There is plenty of time yet to plow it under, either for corn or potatoes. If the farmer should be short of feed, there is an immense lot of it that is equal to any clover known. It occupies the ground when the latter would otherwise be barren and useless. I believe, with the *Rural New-Yorker*, that, even if it winter-kills, it furnishes enough fertility to pay all the cost of seed and putting it in. To get it in after potatoes, I presume an early variety should be selected and planted early. Where our clover now stands we planted New Queen potatoes last year the 10th of May. They were dug somewhere between the 1st and 15th of September, and the clover was sown just as fast as we could get a strip through the field wide enough to cultivate. The potato-tops were used to mulch strawberries near by. Some of them were afterward scattered evenly over the crimson clover. We managed this without very much labor by throwing the vines off to one side, and, as soon as the clover was sown, throwing the same vines back again, taking pains to spread them over the ground evenly. Most of the clover has fallen over, or partially so, in consequence of its heavy growth. The bees are, of course, making a constant roar over the whole field. Two or three swarms have come out while the clover has been in bloom; and as it comes in just after apple-blossoms are gone, it hits the needs of the bee-keeper to a dot. If the clover is saved for seed it will furnish honey all through the interval between fruit-blossoms and white clover.

A NEW PLUM—THE PRIDE OF FLORIDA.

I send you to-day by mail a sample of a new plum, Pride of Florida. I send it to you because you are a lover of fine fruit, and because I hope to advertise it in *GLEANINGS* next fall, and wish you to know

that the claims I make for it are true. It is a seedling of the Kelsey plum, the earliest *shipping* plum, and a good bearer. The plums I send are from one-year-old trees, and have suffered in size from the long dry weather.

Francis, Fla., May 22.

AUG. LEYRAZ.

Every one of the plums reached us in perfect condition; and just as soon as I tasted one it brought back old memories of finding plum-trees in the woods in my boyhood days. I showed one to Mr. Green; and before he tasted it he said, "This is an American plum, and it will grow just as well here in Ohio as in Florida." Of course, they are not very large, but they are perfect in shape and color; and in flavor I should put them ahead of many of the very large plums. They have something of the appearance of the sloe, but are considerably larger. I presume our friend means the trees bear fruit one year after being planted from the nursery. This seems to be, however, a good deal owing to the Florida climate. We should be satisfied if we got plums in *two* years.

THE NEW STRAWBERRY "EARLIEST."

Friend Root.—I notice you mention the Earliest strawberry in your May 15th issue as showing very early blossoms. Well, Mr. E. C. Green may be right. It may be all runners and no fruit in Ohio, but here during the past season it gave a fine lot of berries (because of its earliness) sold at 15 to 20 cents per quart, while large fine berries a little later sold down to 50, 75, and \$1.00 per 32-qt. cases, and some of our growers could not sell them at all after paying picking. Our Earliest, we can say, for dollars and cents, has brought more money than any thing else, per acre. It is not the best berry, nor is it the most productive; but it is productive enough to pay well here. Don't let the plants stand too thickly. Give them a chance. It will (or does with you) do better the second year than the first. We shall be pleased to hear how it does with you, this year, any way. The Carrie has done nobly here this year. We shall just about cease picking Friday.

□ Rio Vista, Va., May 27.

[M. T. THOMPSON.]

All together this new berry pleases us so well that we have decided to put down runners and offer plants for sale. We can, perhaps, furnish a limited number by mail, say about the first of July. Some of the plants have furnished a pretty good lot of berries. The shape is perfect; the color is perfect also, but it is rather light. In flavor it is one of the very finest of the tart berries. The plant is a rampant grower. Those set out last fall have now a mass of foliage as large as a bushel basket. As I have said before, I think it will be a very nice thing to plant to a limited extent on account of its extreme earliness. With us it has been at least two weeks, in time of ripening, ahead of Michel's Early.

THE BELMONT OR GATE APPLE.

I hope you will follow it up and see if they are surely the same. I believe the genuine Golden Gate has smoky blotches on the skin. I consider the genuine old-fashioned Golden Gate one of the best apples on earth. I have been trying to get a tree to plant in my lot, but failed. Storrs, Harrison & Co. could not furnish it. I understood it did not grow well in nursery rows, and the best way to get it is to top-graft another apple-tree. I hope you will do all you can to revive this and the Rambo. Fruits of great merit should not be allowed to die out through neglect or inattention caused by newer things not so good.

PHILO S. DILWORTH. □

Ingram, Pa., May 22.

A RATIONAL REMEDY FOR THE APPLE-TREE BORER.

I have protected my trees completely for 30 years from the apple-tree borer by wrapping the base of the trunk with any old cloth or carpet, or old feed-sacks, or cloth of any kind, putting them about 18 inches high, not too tight. They are held in place with strings. This does not hurt the trees, as about the second year the string bursts, and the rags, or